

# THE RELATIONSHIP OF JOB SATISFACTION AND EARLIER MEASURED INTERESTS

By

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## CHAPTER I

### INTRODUCTION

Since the beginning of the Industrial Revolution there has been a steady increase in job specialization in our society. By 1939, the Directory of Occupational Titles listed 17,542 jobs known by 29,744 different titles (7b, p. vii).<sup>1</sup> This number had increased by 1949 to 22,028 separately defined jobs which were known by 40,023 titles (7b, p. vii). Currently, it is estimated that there are over 35,000 jobs in the American economy.

From this vast array of jobs, each youth has the problem of choosing the one that suits him best in terms of his abilities and interests. Because of the importance of this choice, counselors and researchers increasingly have been concerned over ways by which youth can be assisted in making the best choice possible. One of the first efforts in this direction was by Frank Parsons who in 1907 established the Vocational Bureau in Boston (2b, p. 2b). In addition to job information, the Vocational Bureau attempted to identify better bases for estimating the vocational abilities and interests of individuals. It was thought that if the individual could identify and understand his capabilities and limitations, and have suitable information about occupations, he would be better

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<sup>1</sup>Numbers within parentheses indicate references cited in the Bibliography.

prepared for the task of selecting a job.

The steady growth of the vocational guidance movement attests to the concern felt for the future occupational adjustment of the individual. Vocational counselors have sought to substitute information and reason for ignorance and emotion. Prejob orientation courses have been used with high school seniors by Crousey and Hoppock (13). In this experimental approach it was found that the group receiving information in a course relating to occupations reported at intervals of one year and five years a greater satisfaction with their jobs, more income, and a higher incidence of employment than did the control group which did not receive the job courses.

Of all the personal characteristics of the individual thought to be involved in job choice and subsequent vocational adjustment, or satisfaction, none has received greater attention than that of interests. Bordin states, "Since 1919, vocational interests and aspirations have become accepted as important phenomena in the field of human behavior" (7).

The importance of the relationship between interests and vocational adjustment is emphasized by Super in the statement that "job adjustment is dependent upon the existence of outlets for dominant interests in one's major activities and particularly in one's work" (65).

#### Need for This Study

Vocational interests have long been considered as indicators of probable future vocational success (how others evaluate the

individual in the working world), and vocational satisfaction (the individual's feelings of contentment in his job). The need for additional research regarding the validity of interests as predictors of job satisfaction has been suggested by several authors (30, 38, 41, 63, 67).

The majority of the studies reviewed were concerned with what management can do to create job satisfaction after the worker is on the job rather than determining beforehand if he is likely to enjoy the work. Head, Hopcock, and Zlotchin (30), for example, in a review of thirty-four reports regarding job satisfaction completed in 1944-45, indicate only five studies which approached the problem from the point of view of the employee's basic interests.

There has never been an adequate exploration of the possible relationship which may exist between job preferences as measured by the Kuder Preference Record—Vocational, Form C (hereafter referred to as the KPR), and subsequent satisfaction on the job. Kuder states that this question ". . . has received little attention although it is probably the most pertinent from the standpoint of predicting vocational adjustment from a measure of preference" (38, p. 21).

Lipsett and Wilson assert:

The literature is lacking . . . in longitudinal studies which would show whether or not a person actually finds more job satisfaction when he is employed in a field for which his measured interests are "suitable" (41).

The lack of research is evidenced by the limited number of references listed in other surveys relating to job satisfaction.

Strong (63, pp. 361 ff) lists only four such studies. Of the 229 references cited in the Manual for the Eader Preference Record (38), only six pertain to the relationship between measured interests and subsequent satisfaction with an occupation.

Super points out:

. . . the criteria of vocational satisfaction in studies of interests have consisted of stability in the occupation (in contrast to the position held), and that an adequate investigation of vocational satisfaction in relationship to inventoried interests has yet to be made (67, p. 438).

One difficulty with the studies which have been completed to date is that the researchers have utilized primarily subjects originally tested at the college level, or those beginning professional career training. Then this testing has been done after the individual has gained work experience. There seems to be a need for longitudinal studies with the initial testing at a less mature (the secondary school) level and follow-up testing after the subjects enter the working world.

#### Purpose of the Study

The purpose of this study was to examine one interest inventory which is used in guidance. The interest inventory examined was the EPR. Of specific concern was the relationship between preferences as measured in high school by the EPR and job satisfaction seven to nine years later.

One criterion of any instrument purporting to measure vocational preferences should be whether or not the person will be satisfied

with the work activities and duties of the job to which he is directed. As the basis for this study, the following questions were set forth:

1. Is a high degree of job satisfaction reported more frequently by persons with present jobs that are compatible with earlier measured high interests than by those persons with present jobs which are incompatible with earlier measured high interests?

2. Do persons who select their present jobs because of interest, or for some reason reflecting interest factors, express over-all satisfaction with their present jobs more frequently than persons who select their present jobs for noninterest reasons?

3. What is the relationship between an individual's over-all satisfaction with his present job, whether it is compatible or incompatible with earlier measured high interests, and the compatibility status of the job to which he may aspire?

#### Plan of the Study

As a basis for the investigation of such questions as those stated above, a general plan was adopted. Procedures used in carrying out the study were performed in the sequence and manner indicated below:

The Information Form. To ascertain the individual's present job status and his feelings about his present job, an Information Form was developed. This Form was subjected to a try-out and revised as found necessary. As finally published, the Information Form contained fifteen items (see Appendix A).

The sample. The original sample consisted of 1,545 names and addresses of former secondary school students who had taken the EPR in 1949. These names were from the files of the test author. The original sample was augmented by an additional 1,991 names and addresses obtained from forty-nine secondary schools located in thirty-one states throughout the nation (see Appendix B). This total sample of 4,539 was reduced to a base sample of 3,519 for which there was sufficient information to expect delivery of the Information Form and/or subsequent follow-up devices.

The interest scores. High measured interests, as identified in this study, were determined from scores on the EPR. Interest scores for the respondents were obtained from the test author and from the forty-nine other secondary schools.

Treatment of the data. Step four of the study consisted of describing the working sample, the coding and scoring of the responses to the Information Form items, and the statistical analyses of the data. Personal data, information about the individual's present job, and his expressed feelings about his job were coded and posted to IBM cards. The respondent's highest ranking areas of interest as identified by the EPR were also posted to the IBM cards. These data were then subjected to statistical analyses.

#### Definition of Terms

Job satisfaction. The intrinsic aspects of job satisfaction were the concern of this study. Intrinsic job satisfaction

was identified by Morse as involving such factors as the person liking the work he does, getting a chance to use his abilities, and feeling that his work is of importance. She states, ". . . the most probable single determinant of intrinsic job satisfaction [is] interest in, or liking the type of work performed" (45, p. 57).

Measured interests. Measured interests, or vocational preferences as used in this study, are assumed to reflect the value systems, needs, and motivations of the individual. These interests or preferences were assessed by means of the KPR which classified measured interests into ten broad areas. Of particular concern to this study were the two highest ranking interests of the individual.

Compatible. Based upon a scheme introduced by Lipsett and Wilson (41), the classification of a respondent's job according to his high measured interests was as follows. If either of the respondent's two major interest areas corresponded to the Kuder classification of his present job (36, pp. 5-13), his present job was designated "compatible" with an earlier measured high interest area. Where occupations had been classified by Kuder, not under a single interest area, but under a combination of interest areas (such as Literary-Clerical), the job was designated "compatible" if either of the respondent's two major interest areas corresponded to either of the two interest areas comprising the combination occupational classification.

Incompatible. A respondent's job and his high measured interests were classified as "incompatible" if neither of his two

highest ranking interest areas on the KPI corresponded with the Under classification of the occupation. If the occupation was classified under a combination of two interest areas, the job was designated as "incompatible" if either of his two major interest areas did not appear in the combined classification.

#### Summary

With the growth of the vocational guidance movement, there has been an increasing awareness of the importance of the relationship between interests and subsequent vocational adjustment, or the amount of satisfaction experienced by the individual with his work. Research, however, has not maintained the pace set by this increasing awareness. Several authors (30, 38, 41, 63, 67) have expressed the need for additional research on this problem (see pp. 3 ff).

The relationship of job satisfaction and interests as measured by the KPI at the secondary school level was the specific concern of this study. To determine this relationship, several questions were asked. To answer these, an Information Form was developed and mailed to the 3,619 selected persons which comprised the base sample. The responses to the items on the Information Form were coded, scored, and posted to IBM cards. Also posted to the IBM data cards were the individual's two highest ranking interest areas as measured by the KPI and an over-all satisfaction rating.

## CHAPTER II

### REVIEW OF THE LITERATURE

The literature reviewed for this research consisted of studies that were concerned with interests, their measurement (particularly as measured by the Euder Preference Record—Vocational, Form C), and the relationship of interests to job satisfaction.

#### Studies Concerned with Interests and the Euler Preference Record—Vocational

As a result of the impracticability of extended occupational try-outs, and the inability of students to identify their occupational interests, as ways by which to determine their interests, several interest tests and inventories have been developed. Anastasi stated that:

. . . the study of interests has probably received its strongest impetus from vocational counseling . . . and the difficulty of determining a person's interests by asking him, is that all too frequently there has been (a) an insufficient amount of experience and information on the part of the individual, and (b) a predisposed opinion based upon glamorized stereotypes regarding certain occupations (1, p. 56).

Therefore, students, particularly those at the secondary school level, are seldom in a position to make adequate vocational choices by themselves. Furthermore, acquiring a suitable experiential background would delay actual entry into the working world. Interest tests and preference inventories help to narrow the number of occupational choices which should be considered in selecting a vocation.

Earliest concerns with interest, primarily by educators, were evidenced during the first two decades of the twentieth century. Hall (29, p. 288), James (35, p. 402), and Monroe (44, p. 752) each viewed interests as motivating forces both in education and in life. Experimentation with the measurability of interests, however, was not undertaken until about 1920 when trial instruments were used in employee counseling at the S. H. Macy Company, New York City. This early instrument was published as the first standardized interest inventory, The Carnegie Interest Inventory, in 1921 (24, p. 459).

Subsequent investigations by Fryer (24, p. 349), Strong (61), and Thorndike (70, p. 189) considered interests, as they were related to attitudes and abilities, as traits to be identified when counseling with the individual. They felt that counselors should consider interests in single activities, as well as the over-all pattern in many different activities, that may have significance for choosing a particular vocational area or career.

Super cited three interest tests that he considered outstanding, on the basis of the amount of research relating to each of them. They were the Allport-Vernon Study of Values, the Euder Preference Record—Vocational, and the Strong Vocational Interest Blank. In citing these instruments he stated, ". . . of all methods used to measure interests, interest inventories which yield scores for a variety of interests have so far proved best" (67, p. 224).

Silvana (57), in a survey of tests used by 167 psychological counseling centers found that of the 155 tests of various

types listed, the EPR was used more often than any other. Hence, a study of the EPR, which is the concern of this project, seems warranted.

The Kuder Preference Record—Vocational was developed at Ohio State University by C. Frederic Kuder during the period 1934-1939. The first form of this inventory, Form A, was published in 1939 and consisted of seven scales. These included scales for Computational, Scientific, Persuasive, Artistic, Literary, Musical, and Social Service interest areas. In 1942, Form B was published. This form included, in addition to the above seven scales, a scale for the areas of Mechanical and Clerical interests. Form C, made available in 1948, consisted of ten interest categories. The areas identified in the Form C were Outdoor, Mechanical, Computational, Scientific, Persuasive, Artistic, Literary, Musical, Social Services, and Clerical. This latest edition was designed for use with high school students as well as with college students and adults. In addition to the ten interest areas, this edition includes a verification score and a glossary that were not included in earlier editions.

Stability and permanence of interests. Much of the current research regarding interests continues to reflect the concern expressed earlier about the stability and permanence of measured interests. Thorndike pointed out as early as 1912, that ". . . it would indeed be hard to find any feature of a human being which was a much more permanent fact of his nature than his relative degrees of interest

in different lines of thoughts and action" (69). And, similarly, Carter in 1940 stated that ". . . interests may be considered as stable and integral aspects of personality, closely related to emotional, social, and intellectual maturity" (10).

Several authors (24, 63, 67, 76) agree that changes in interest do take place during adolescence. Changes in interests at this age are closely related to general changes in behavior characteristic of development, but that the patterns of interest which begin to manifest themselves by age fifteen tend to be those which are evident ten or twenty years later.

In summarizing some of the earlier research on the permanence of measured interest, Fryer (24, p. 183) found that the mean correlation value of first testing at the elementary level with a second testing fifteen months later was .29, while the mean correlation value of first testing at the secondary-college level with a second testing eighteen months later was .75. He interpreted these as indicative of the increasing stability of interests with age, at least through the adolescent years.

In writing about the stability and permanence of interests, Strong stated:

. . . interests remain remarkably constant from fifteen years of age onward. Interests of fifteen and twenty-five year old men correlate .82. That is, the high correlation stated means that on the whole the items that are well liked are the items that are well liked later on, and vice versa (63, p. 286).

Similarly, Super concluded:

Most of the change in interests which does take place with maturity is complete by age 18; the type of change which may take place at that age is systematic and predictable on the basis of interest inventory data. It is still pertinent, however, to inquire concerning the permanence of interests when they are subjected to influences which may change them in one direction or another. The evaluations in terms of changes in expressed interests show that pleasant experiences do change overt attitudes toward activities. But whether or not underlying interests, or interest patterns, are thereby modified remains to be ascertained (67, p. 393).

Harter wrote:

The interest patterns of adolescents are not so unstable as has been commonly thought, but are substantially permanent and stable from about 14 or 15 and fairly well crystallized by the end of high school. The changes that occur during high school are mainly clarifications, development, and elaboration. For most persons, adolescent exploration is an awakening of something already there (76, p. 58).

Specific studies of the stability of interests as measured by the EPR have been done by Fox (21), Hersberg and Bouton (32), Levine and Wallen (40), Mallinson and Crumrine (43), and Reid (49). Fox (21) administered the EPR to a group of fifty-eight boys and seventy-six girls enrolled in the ninth grade, and again two months later. The measured interests of girls were more stable, or more definitely established, than those of the boys. In Table 1 is shown the order of tested stability in the various areas. The areas are listed in order of decreasing stability after a period of two months following the first administration of the EPR.

Hersberg and Bouton measured the interests of high school students with the EPR and again four years later. The second testing included 130 of the original group that were then in college. This was the second follow-up using this same group; the first had been

completed two years previously. The four-year study investigated the stability of each of the areas of interest measured by the KPR. The mechanical and artistic areas were found to be the most stable, and the social service and musical areas to be the least stable. Further, this study indicated females to have higher stability values than did males of the same sample. The authors concluded:

The values for the four year follow-up continue to compare favorably with the coefficients reported by other investigators whose studies were not carried out over as long a time nor over such a transition period (high school into college) as was encompassed by this investigation (32).

TABLE I

Order of Stability Two Months After the First  
Administration of the Kuder Preference  
Record—Vocational, Form B (21)

Boys		Girls	
Order of Stability	Area	Order of Stability	Area
1	scientific	1	social service
2	musical	2	literary
3	artistic	3	scientific
4	mechanical	4	musical
5	computational	5	artistic
6	social service	6	clerical
7	clerical	7	computational
8	literary	8	mechanical
9	persuasive	9	persuasive

Levine and Wallen found that ". . . interests measured by the EPR in adolescence are positively related to the occupation engaged in seven to nine years later" (10). Findings from this study indicated that interests are sufficiently well organized in late adolescence to estimate future occupational activity.

Hallinen and Cruarne administered the EPR to 250 students in the ninth grade and again in the twelfth grade. They summarized the results of this investigation as follows:

The highest interest area remained highest throughout the high school period in 80 per cent of the cases.

The second highest interest remained second highest throughout the high school period in 70 per cent of the cases.

The third highest interest remained third highest throughout the high school period in 52 per cent of the cases.

The lowest interest area remained lowest throughout the high school period in 43 per cent of the cases.

The second lowest interest remained second lowest throughout the high school period in 35 per cent of the cases.

The third lowest interest remained third lowest throughout the high school period in 22 per cent of the cases (43).

Hallinen and Cruarne concluded that:

Students may be counseled reliably on the basis of interest at the ninth grade level provided that the two or three highest areas of interest and the two or three lowest areas of interest are considered in such counseling (43).

Reid (49) administered the EPR to 145 college freshman who consented to be retested in fifteen months. The mean age of the group was 18.4 years. The Pearson product-moment coefficients of correlations for the separate interest areas, using scores obtained when first tested as one variable and the scores obtained fifteen months later as the other variable, are shown in Table 2.

TABLE 2

Correlation of Scores Obtained Fifteen Months  
Apart on the Kuder Preference Record—  
Vocational, Form B (49)

Area	Correlation
persuasive	+.894
mechanical	+.835
social service	+.820
clerical	+.810
literacy	-.770
medical	-.773
scientific	-.770
artistic	-.755
computational	-.750

Similarly, in other studies concerned with the stability and permanence of measured interests, Dunlap and Harper (18) found in a study involving ninth and tenth graders that 54.3 per cent had similar profiles on the Strong Vocational Interest Blank after a ten months period. Strong found "... high school juniors, when retested six months later, to have a smaller percentage (52.6) of identical responses than did college seniors retested after five and ten years (60.7 and 58.4 per cent respectively)" (63, p. 658).

Stewart (59) found also that a group of students maintained a marked degree of stability of interests when retested with the KPR after being told their scores on an aptitude test battery. It had

been theorized that when aptitude test scores were known, subjects would tend to falsify their responses on the interest tests, which is contrary to Stewart's findings.

Applicability of the KPR. To understand students in all dimensions of their personality, a comprehensive sampling of facts about each student is needed. An effective guidance program in the high schools requires such an understanding of pupils. Many tools for appraisal have been developed, of which inventories are but one. The question of the applicability of the KPR for use with high school students has been treated from several viewpoints. Ender (54) studied the applicability of the KPR in terms of the difficulty of its vocabulary for high school students. He made a comparison of seven interest inventories and suggested three groupings. Ender's inventory, with a vocabulary difficulty of grade level 5.4, and the inventories of Brainard and Lee-Thorpe with vocabulary difficulty of grade level 6.4 and 6.8 respectively, contained the lowest percentage of difficult words.

Super concluded, "The sociability of the Ender and the ease with which students participate in scoring and the plotting of profiles give this inventory many advantages for use in guidance programs" (67, p. 468).

The ease of falsifying responses to the items of the interest inventories was investigated by Longstaff and Realy. Longstaff's subjects were fifty-nine students at the University of Minnesota. He drew these conclusions:

1. Both Strong and Euder tests are decidedly fakable.
2. Some interest categories are more fakable than others.
3. Women are less successful in faking than men.
4. The Strong Test in general is easier to fake upwards than the Euder, while the Euder is easier to fake downward than the Strong (42).

Healy (31) found that high interest test scores of freshmen student nurses who later dropped out of nursing school indicated that these students consciously or unconsciously slanted their answers to conform to the interests commonly associated with nursing.

In summing up the applicability of the EPR for use with high school students, it can be stated that the EPR can be understood by most ninth grade students. The interests for this grade group remain fairly stable, particularly with respect to strong interests. As for faking, it should be noted that studies cited used college-level subjects rather than high school students. Presumably, high school students, being less experienced in taking such tests, would be less successful in faking than college students.

Validity. Grades obtained in college courses and other indices of academic achievement have been correlated with the Euder scores. Romney (55) found a correlation of .27 for men and .29 for women between achievement in college English classes and scores on the Euder literary scale. Fifty college students scoring above the 75th percentile on the Euder scientific scale were matched by Givens with fifty others who scored below the 75th percentile on the same scale. He concluded:

When academic achievement in nonscience courses is held constant, college students with high interest in the scientific

area do not make significantly higher grades than those students with low interest in the scientific area (25).

The relation between scores obtained on the KPR by Harvard freshmen and their grades in their fields of concentration was investigated by Haggaley. This study was conducted to develop predictions of the amount of interest college students showed in various fields as the result of their performance on this inventory. He concluded from the findings of the study, "Keeping certain limitations in mind, the counselor could by using the results obtained from the KPR minimize academic dissatisfaction among students (3).

Grayfield (5) grouped 231 female office workers into six major job categories in order to ascertain the relationship between clerical interest and clerical aptitudes. The clerical interest on the KPR correlated .459 with the number section on the Minnesota Clerical Test for those in the entry job category (e.g. beginning clerk). In general, however, it was found that relationships were negligible.

Wealey, Corey, and Stewart (70) used 156 male college students enrolled in introductory psychology as subjects in an investigation of the relationship between vocational interest and vocational ability. Only a slight relationship between seven interest areas as measured by KPR and abilities as measured by various instruments selected to correspond to the interest areas was found to exist. The Pearson  $r$  correlation was obtained between each interest area and its corresponding ability. The mean of the seven correlations was .30.

Super commented on the KPR in regard to vocational diagnosis by saying:

The first external evidence of the validity of the Kuder was its ability to differentiate students majoring in different professional fields at the college level. Grades tend to be related to appropriately measured interest in some cases but not in others (66).

In summing up the above studies concerned with the validity of the KPR, it is to be noted that most of the research cited above was done with subjects at the college level. Because the KPR is being used so extensively in secondary schools as a basis for educational and vocational guidance, it is important that the inventory be validated on this level as well.

Effect of experience on scores. Bateman studied the effect of work experience on high school students' vocational interests. Work experience for his study was defined as:

Practical activity in the production or distribution of goods or services exercised in a normal way in business, industrial, professional, and institutional fields and for which pay was received (4).

The KPR was given to working and nonworking junior and senior students in high school. Bateman concluded that working and nonworking students do not differ greatly in their interest patterns. Also, Dreszel investigated the relationship between experience and interest at the college level at the Michigan State College Counseling Center and concluded that "Students who expressed interest in a particular area tended to be conditioned by the extent of their experience in that area" (15). Males indicated differences in interest as a

result of experience in more areas than did females.

Changes in interests resulting from work experiences or professional career training were investigated by Hale and Leonard. These authors reported interest preferences to be relatively stabilized from early professional training through employment in a chosen profession. Also, as a corollary, ". . . it is doubtful whether significant demonstrable interest preference changes result from curriculum changes in a given professional training program" (26).

Work experiences and/or professional career training do not appear to influence the general patterns of interest after the earlier stages of such experiences. It was also disclosed that work experience does not greatly affect interest patterns between junior and senior students in high school.

Other studies. The development of an equation for identifying the interests of carpenters was undertaken by Murgass (46). From a study of the workers in this particular building trade, it appeared that it was possible to secure a characteristic profile on the KPI and to develop a stable equation for identifying interests characteristic of carpenters. All differences from the norm group were significant at the 5 per cent level, and all but one, social service, were significant at the 1 per cent level. The most significant positive difference from the norm was the performance on the mechanical scale. The second most significant positive difference was on the artistic scale. By far the most significant

negative difference from the norm was the performance on the literary scale.

Bertie (5) administered the Strong Blank and the EPR at the University of Minnesota to 500 men with a mean age of 20.6 years. The students were then asked to rate themselves on a rating form. The rating form was of the graphic type and covered nine occupational areas. The median contingency coefficient between the Strong test and the self-rating by the student was .43, while the EPR gave a correlation of .52 with the self-rating.

Friggs (71) investigated the measured interests of nurses, using as subjects 816 nurses and 1,246 women from the general population. The EPR was the measuring instrument used. It is to be noted that certain interest areas, scientific and social service, were stronger for nurses than for women from the general population; but other areas of interest, persuasive and clerical, were weaker for nurses than for women from the general population.

#### Studies Concerned with Job Satisfaction and Interest

Industry's concern with the problem of job satisfaction as a factor in morale and productivity is evidenced by the increasing number of projects sponsored by members of the automotive, communication, electrical, mining, petroleum, and other such industries. Results of a few such projects are included in the following review.

Bachrach in reporting the findings of a recent project sponsored by the National Science Foundation to evaluate and identify

scientific capabilities and motivation in the selection of scientific careers, stated:

. . . much of the information relative to occupational choice, success, and satisfaction is based upon the intelligence, aptitudes, interests, achievement, personality, and motivation of the individual (2).

The need for a better understanding of interests through a comprehensive, coordinated, longitudinal approach is stressed. One important question that is raised in this study is the extent to which opportunities are provided for need gratification by one occupation as opposed to another.

Morse (15) studied a predominantly female sample of 742 employees and 73 first- and second-line supervisors to investigate levels of contentment and productivity of workers in white collar jobs. She hypothesized that satisfaction would depend upon the degree to which the aspirations of the individual are achieved (15, p. 97). She found that although this satisfaction did not appear to determine productivity level directly, it did affect the willingness of the employee to remain with the organization. The distribution of intrinsic job satisfaction scores for the group sample shows 31 per cent report high satisfaction, 38 per cent report medium satisfaction, and 31 per cent report low satisfaction (15, p. 56).

Intrinsic satisfaction was identified in the study by Morse (15) to be that degree of satisfaction obtained by the individual employee from performing those tasks which constitute the content

of his job. This would involve such factors as liking the work he does, getting a chance to use his abilities, and feeling that his work is of importance. The factor which Morse felt to be the most probable single determinant of the degree of intrinsic job satisfaction experienced by the individual was interest in, or liking the type of work performed (45, p. 57). Her findings indicated that high intrinsic job satisfaction was scored more frequently by that group performing low-level (unskilled) tasks. She also found age and length of service of the employee were significantly related to intrinsic job satisfaction.

Of all the basic elements comprising the intrinsic aspect of satisfaction of the job, interest rates highly. Reynolds and Shuster (50) found job dissatisfaction most frequently attributed to the uninteresting nature of the work. Trumell (72) arrived at similar conclusions. He interviewed 704 male workers in one community. Findings in this study indicated that "having work that is interesting" had the highest rank of importance.

Harsberg and associates (33), in a survey on job attitudes and opinion conducted by the Psychological Service of Pittsburgh, found only limited reference to the relatedness of measured interests and job satisfaction. In one group of twenty studies summarised (33, p. 43), employees had been presented a list of job factors to be ranked in order of importance. Interest was identified more frequently than all other reasons except security.

Another summary in this survey of thirty additional studies also identified those factors deemed most important by workers (33, p. 51). In these studies, however, the employees were asked to compile their own list of those job factors which were most important to them. Findings indicated intrinsic job-satisfaction factors were ranked more highly by males, by veterans, and older workers, by office workers as in contrast to factory workers, and by those persons with more advanced education employed at upper level occupations.

Hershberg and associates (33, p. 71) also found twelve of the studies reviewed had used the factor analysis approach to identify and determine the relative importance of factors comprising job attitudes. Six of these twelve studies emerged with a distinct basic element of interest. This finding further reinforces the importance of interest as a factor relating to job satisfaction.

Although findings in various studies (33, 50, 77) rate interest as an important factor of job satisfaction, Robinson (52) found when reviewing thirty-three research studies concerned with job satisfaction that only one study had examined closely the relationship of measured interests and job satisfaction.

Lippett and Wilson (61) conducted a follow-up study of former clients of the Counseling Center at the Rochester Institute of Technology to validate the effectiveness of measured interests and mental ability as predictors of future vocational adjustment. Of the 106 cases studied, fifty-nine were classified as holding

jobs suitable to their measured interests and forty-nine as holding jobs considered unsuitable to their measured interests. Findings from this study, relating job satisfaction and suitability of interests are shown in Table 3.

TABLE 3

Relationship Between Job Satisfaction and Suitability of Interests as Measured by the Kuder Preference Record in a Group of Clients of the R.I.T. Counseling Center (hl)

Degree of Job Satisfaction	Interests as Measured by the KPR			
	Suitable (N = 59)		Unsuitable (N = 49)	
	N	%	N	%
Best possible job for you	19	32	4	8
Like it very much	24	41	16	33
Like it fairly well	13	22	13	27
Dedifferent	2	3	12	24
Dislike it	1	2	4	8

Notes: Based on responses to the question: "If you are employed, how do you feel about your job?"

Some of the principal findings from the study by Lipsett and Wilson were:

1. There was a tendency for the respondents with the greatest job satisfaction to have occupational interests which would be classified as "suitable" in terms of the assumptions on which the Kuder Preference Record is based.
2. Correspondingly, those clients reporting job indifference or dislike tended to have interests which would be considered "unsuitable" (hl).

Bahn and Williams (27) found significant differences existed on the clerical scale of the KPR between satisfied and nonsatisfied clerical workers. These authors studied the relationship of job satisfaction to scores on the KPR of three clerical groups of Marine Corps Woman Reservists.

Webster (77) followed up eighty-one former vocational guidance counselees and found that of the fifty-five respondents having a subsequent work history, 51 per cent had followed decisions reached after appraising the results of clinical evaluations of ability, intelligence, aptitudes, personality, and interests and reported job satisfaction. It was found that 1.6 per cent of the clients who had followed the clinical evaluations reported dissatisfaction as compared with 11.5 per cent who had not followed clinical appraisal and who expressed dissatisfaction with their work.

Hand, Hopcock, and Zlatchin (30) found the majority of the research studies on job satisfaction for 1944-45 were concerned with what management can do to remedy existing conditions rather than with the problem of poor initial placement. Cofer and Cohen (12) investigated the job attitudes of 101 federal employees and found poor placement as a result of inadequate or ineffective counseling to be one of the major causes for dissatisfaction.

Super (64) studied a sample of 273 men and found 84 per cent of those who had selected jobs on a basis of interest were satisfied with their work. Thirty-seven per cent of the sample had chosen their occupations for economic reasons and expressed

satisfaction with their work. Later, using this same sample group, he found that those men whose major avocations (indices of interests) more closely resembled their vocations were more satisfied with their jobs.

Sarbin and Anderson stated:

Expressed dissatisfaction may be a resultant of the conflict between the ego-ideal and the occupational milieu of reality in which the individual applies this concept of self; that adults who complain of occupational dissatisfaction show, in general, measured interest patterns which are not congruent with their present or modal occupations (56).

With the accumulation of additional evidence that there are definite relationships between interests, attitudes, and personality factors and adjustment in the working world, a knowledge of the existing vocational interest patterns of young adults becomes increasingly important. Sarbin and Anderson added:

If interests are fixed by the time an individual is ready to seek employment, and if dissatisfaction will result if the client enters an occupation outside his interest type, then the counselor will advise him to seek employment in certain restricted areas (56).

Cleland (11) found that the measured interests of undergraduates were directly related to occupations entered after graduation in 58 per cent of the sample studied. Job satisfaction was rated as "high" or "reasonably high" by 94 per cent of the seventy-seven cases used in the study. He further added:

If the results of an interest inventory show significant correlation with the interests involved in subsequent jobs, one may suspect that factors other than interest are either relatively less important in job selection and satisfaction or that those factors are also measured to some extent by the interest test (11, p. 68).

When college women were studied by Wrightwick (80) similar findings were described. Eighty per cent of those women in occupations which agreed with their measured interests were found to be satisfied as compared to an equal percentage expressing dissatisfaction when occupations and vocational preferences were at variance. In summarizing the study, she stated:

A genuine vocational interest is indicated by early initiation without obvious environmental pressure. It is fostered by voluntary activities related to the interest during school and college years. . . . Nevertheless, in some instances, this genuine vocational interest was deflected by a number of conditions, such as family pressure, financial need, scholastic difficulties, personality deficiencies, or lack of employment opportunity (80).

The use of interests as predictors of future job satisfaction has become more prevalent as a result of research studies such as those cited. It is, however, worthy to note the caution extended by some authors (8, 14, 23, 33, 36). Freilich and Benson judged, ". . . the most unfortunate trend in the whole area of guidance testing [*is*] the tendency of some counselors to overemphasize interest test results" (23, p. 56). These authors suggest the need to consider also abilities, training, and opportunity along with the interest test results. Grayfield, similarly, stated that ". . . one type of appraisal cannot be substituted for another. Other types of analysis should be made" (8).

The limitation of interests and interest inventories to do the entire job in counseling is stressed by Ditschael. He recommended that greater emphasis should be placed upon measures of ability, because ". . . first, interest and actual ability often

do not go hand in hand; and second, . . . interests are changing entities which begin to show some aspect of permanency only at a time when the occupational choice has already been, or should have been made" (14). This concern was expressed as early as 1916 when Kitson stated that ". . . although interest in an occupation may be intense, ability may be absent or deficient" (36).

Barsberg and associates stated, however, that:

Of all the types of tests used in the counseling process, it appears that the use of interest tests has the strongest factual justification. Evidence based on different populations, using varying lengths of time and different interest tests, show that the pattern of interests, as measured by objective tests, has a demonstrable positive relationship to the satisfaction the individual derives from his job (33, p. 225).

#### Summary

Some of the earliest research on interests is concerned with their permanence and stability. Later, and current research is in general agreement that interests have a high level of stability and permanence after about the age of fifteen.

The Euder Preference Record—Vocational, Form C, used in this study, was the 1950 revision of the test developed by G. Frederic Euder and first published in 1939. The current form as indicated above consists of ten scales or broad areas of educational and vocational interests. There is also included in the Form C a verification score. Studies have been made concerning difficulty of vocabulary and the ease of falsifying this inventory. In trying to establish the validity of the EPR, coefficients of correlation

have been obtained between grades earned in college courses and the interest areas of the inventory. Only a few studies were reported for high school students.

Job satisfaction surveys and studies have shown the high relationship between interest factors in a job and the satisfaction with the job. Only one study reported had attempted to relate measured interests to job satisfaction, although one other study did use measured interests of college freshmen as a criterion for subsequent job selection and satisfaction.

Caution is advised against the overemphasis on the use of interests and interest tests in the counseling situation. These should be accompanied by supplemental measures of ability, aptitudes, and other traits. Several of the studies reported the need for vocations to be meaningful, and for the vocational choices to be consonant with the individual's interests, capacities, and self-concept.

## CHAPTER III

### THE INSTRUMENTS AND THE SAMPLE

This chapter describes the first three steps of the study. These steps were (a) the development of the Information Form, (b) obtaining the sample, and (c) securing the interest scores of the respondents.

#### The Information Form

The Information Form, a type of questionnaire, was used for gathering data from each subject including the feelings he held toward his job. This method was selected because of the wide geographic distribution of cases which negated the practicability of personal interviews. The blank used in this study was composed of items from a group that had been collected by the author over a period of several months and tested verbally on various individuals. Twenty items relating to personal statistics and present employment were finally selected for a try-out. (The rationale for the items retained in the final form of the questionnaire will be discussed in a later section.)

The try-out. The try-out, conducted in the fall of 1957, included an explanatory cover letter and the trial form. The distribution was by mail and personal delivery. The group used for this phase consisted of thirty-five persons of both sexes between

the ages of twenty-two and twenty-eight, in various occupations, with educational completion levels ranging from the eighth grade to the doctoral degree level. Thirty-one responses were received. The four outstanding copies were followed up by personal calls. These interviews with nonrespondents revealed that the reasons for failure to reply were not due to ambiguities in the blank itself, nor to confusion as to how it was to be completed.

Results from the trial run indicated that items included on this early form of the blank would be of value in obtaining the type of data sought. There was found, however, a need for simplification of instructions for the completion of the blank. Five of the items on the trial blank were either eliminated or combined with other items because of duplication, or the apparent close relationship existing between two or more of the sections. The final form for use with the sample was then printed and prepared for distribution.

The revised Information Form. The over-all design of the Information Form (see Appendix A) was such as to elicit a depth of response rather than responses of a superficial nature. Where "yes" or "no" type of responses were called for, an opportunity was given for the respondent to qualify his response. While there appears to remain some duplication in a few of the items in the printed form, it was considered desirable to retain these for reliability checks. Questions were so worded as to avoid, if possible, insincere responses and/or those responses which would appear only because of their greater social acceptability. There were also

opportunities for the respondent to offer suggestions or to express freely his own feelings beyond the limitations of certain items. The basic information sought with the Form was (a) the identity of the subject's present job in terms of the interest factors involved in the work activities, and (b) the feelings of satisfaction or dissatisfaction the individual had toward the work activities of his job. The Form consisted of three printed pages, with the back of page three blank for additional responses or suggestions the respondent might wish to make.

Item rationales. The general rationale for the construction of the Information Form has been presented above. The following sections set forth the rationales for the inclusion of the specific items on the Information Form.

Items I, II, and III requested personal data necessary for the study. The information sought included name, age, current address, highest grade in school completed and degrees, if any, received.

The next section, item IV, concerned the job history of the individual. He was asked to list his present job, previous job, next previous job, and so forth through all jobs he had held six months or longer since leaving high school. For each of these jobs, the person was requested to give the name of the job, the activities or duties of the job, reason for accepting the job, months on the job, reason for leaving the job. Then he was requested to indicate the job(s) he liked. This item was used to determine

the present job and the kinds of work activities involved in the present job, which would make possible the classification of the job in terms of interest factors or areas as measured by the EPR. Reasons for accepting and/or leaving the job would give an indication of factors functioning in job choice. It was felt that satisfaction with the work would probably occur more frequently in jobs which were selected on a basis of interest. Super stated:

. . . men and women tend to enter or change to occupations which are in keeping with their inventoried interests (and that) satisfaction in work is what might most logically be expected to be the outcome of having appropriate interests (68, pp. 222-24).

Months on the job, or length of service, was also considered an important criterion of job satisfaction by Strong (63, p. 387), Herzberg and associates (33, pp. 11-12), Morse (45, pp. 52-53), and Super (68, pp. 149-50). In her study of white collar workers, Morse found that ". . . Any level of general satisfaction may be a predictor of the individual's desire to stay or leave the organization" (45, p. 52). She further stated, "those who are higher in intrinsic satisfaction . . . intend to stay longer in the company than those who are less satisfied" (45, p. 52).

The next group of seven items, V through XI, were preceded by a note that "Persons who are now members of the armed forces, college or trade school students, or housewives, should relate questions V through XI to last job held." These items formed a composite measurement of over-all intrinsic job satisfaction for use in the treatment of the data.

The first of this series, item V, asked the respondent, "Do you feel happy in your present job?" with one of the following responses to be checked: "Most of the time? About half of the time? Seldom (less than half of the time)?" (It was found in the try-out that the term "happiness" with the job produced more consistent responses than did the term "satisfaction" with the job.) This was one of the primary items for the determination of the over-all satisfaction score.

Item VI was a combination of two items appearing on the try-out blank. Subjects were asked to check "yes" or "no" to the question, "Do you think you would like to be in the same general field of work as your present job five years from now?" This question was followed by a second part, "If not, what would you like to be doing five years from now?" This item was a secondary type of item to be used in adjusting the over-all satisfaction score. This item is one of the several items included in the Information Form that pertain to continuance in the job, or length of service.

The degree of happiness a person feels when comparing himself with other people he knows who are doing the same kind of work, is sought by item VII, "How do you feel about your present work insofar as the work is concerned? Suppose that the pay, hours, location, etc., were all satisfactory, how do you feel? More happy than most people you know who do the same kind of work, as happy as most of the people doing the same kind of work, or less happy than most of the people doing the same kind of work?" This item

was another approach to discover feelings of satisfaction or dissatisfaction the individual felt for his work. This item, as in items XI and XIII, requested the subject to suppose the extrinsic factors, such as pay, hours, and location, were all satisfactory, and to answer the item only on the basis of intrinsic interest factors. Super stated:

Satisfaction can be ascertained by asking people how well satisfied they are, but for their responses to be meaningful they must be able to differentiate between satisfaction derived from their work activities . . . and the various other factors which are associated with their work (68, p. 223).

The responses to item VIII served to identify those job activities most liked and least liked by the subject, and also assisted in determining how the respondent perceived the content of his job. Those activities named by the respondent were examined as to (a) whether they were major or minor work activities of the job held, and (b) if they were or were not considered important interest components of the job. For example, it would appear incongruous for a stenographer to express satisfaction with her job and at the same time identify typing and/or the taking of dictation as job activity(ies) liked least. This item was included as a verification or reinforcement item in arriving at the over-all satisfaction score. Morse reported, ". . . job content appears to be a likely determiner of job satisfaction" (15, p. 67).

Item IX, "(a) Which do you receive the most pleasure from? Work done on the job, or things or work done in your spare time?" and "(b) What work or kinds of things do you do in your spare time?"

Please be specific, such as hobbies (kind), etc.," was retained in the final revision as a secondary determinant of the over-all satisfaction score. It was discovered in the try-out that, although some subjects professed to receive greater pleasure from spare-time activities than from job activities, these spare-time activities were observed frequently to be congruent with the major interest factors of the job held. This inconsistency appeared to indicate a difficulty on the part of the respondent to separate the intrinsic aspects (those work activities of the job itself) and the extrinsic aspects (pay, hours, and location) of his job. This item helped to identify those specific activities that the individual liked to perform.

Willingness to stay in the present kind of work was to be indicated in response to item X, "Have you ever seriously thought of changing from your present kind of work? If yes, why have you thought of changing? And, if yes, what has kept you from making a change?" Strong (63, p. 387) mentioned the use of "continuance in an occupation" as an adjustment, or satisfaction, criterion because of its objectivity. He cautioned, however, against assuming an equivalency of continuance and satisfaction as there are many instances in which people dislike their work but cannot change to other occupations because of economic reasons, age, necessary training, or other such reasons which would tend to make a job change impractical.

Super (68, p. 224), in discussing occupational stability, suggested that another method of finding out whether or not people

like their work would be to ascertain whether the person remains at the job over a period of time or changes to something else. He warned also that:

Here again the measure is contaminated by other factors, for earnings, health, and other extraneous matters may affect staying in or leaving an occupation just as they affect expressions of satisfaction or dissatisfaction (68, p. 224).

It was upon the basis of such references as the above that item I, as well as other items pertaining to continuance in present job, were retained in the revised Information Form.

Item II, "If the pay, hours, location, etc., were all equal, which of the following would you choose? The job you now have, the same kind of job with some changes (what kind of changes would you suggest?), or a different kind of work entirely?" is similar in nature to item I, in that it also concerns the individual's consideration of job change. Hoppeck's Job Satisfaction Blank No. 5 (34, p. 243) contains seven items in the section "How do you feel about changing your job?" If the individual is willing to remain in the same job with some changes, it was assumed that job satisfaction did exist. Strong stated that ". . . satisfaction as a criterion of an interest test should refer to satisfaction with the career, not with conditions peculiar to a particular job" (63, p. 384). If the subject checked that he would choose the same kind of job with some changes, he was then asked to indicate what kind of changes he would suggest. This would again serve to show whether or not, or to what degree, the subject had been able to separate intrinsic and extrinsic aspects of the job.

The individual's level of aspiration was sought by asking item XIII, "(a) If given a choice of any job in the world, what would you most like to do? Suppose that the pay, hours, location, etc., were all equally satisfactory; consider only the actual work you would be doing in the job. (b) Why would you like to be doing this kind of work?" When given a world-wide choice of jobs, or when asked a if-you-could-do-it-over-again type of question, a more basic, if not realistic, evaluation of the job was revealed. It was discovered in the try-out stage of the Information Form that those persons in jobs which were unsatisfactory were inclined toward other jobs at a higher level, but in the same general occupational areas, or toward jobs that were in completely different areas. The retention of item XIII was for the purpose of determining if, when given a choice of any job in the world (pay, hours, location, and other such factors being equally satisfactory), respondents dissatisfied with their current jobs would select jobs in line with their high interests as measured by the EPI several years earlier. This item, in contrast with item IV, sought to identify the aspirations of the person rather than his expectations.

The first of the two unnumbered items following item XIII was an "open-end" item which presented an opportunity for the subject to express his personal feelings regarding his present job. In view of the restricted character of the responses called for to other items on the Information Form, this item seemed warranted. Good and Soates (26, p. 616) suggested a question of this nature

for the purpose of increasing rapport and insuring greater care in responding to questionnaire items. It was further stated that there ". . . is a need for some such questions for the purpose of catharsis" (26, p. 618).

Interest area activities based upon the ten major areas of interest of the EPI were listed in the final section of the Information Form with instructions for the respondent to check those activities involved in his (a) present job, (b) previous job, (c) next previous job, and for each job in the order in which they were listed under item IV. This section provided additional information needed in the classification of the individual's present job according to the major interests involved in the work activities of the job.

To summarize, the final Information Form as used in the study consisted of fifteen items. These items were designed to secure responses relating to four general areas of concern: (a) personal data needed for purposes of identifying the subjects, (b) primary evaluative indicators of satisfaction with present job, (c) secondary indices of job satisfaction to be used in adjusting the over-all satisfaction score, and (d) information for the identification and classification of the respondent's job in terms of the interest factors involved in the duties or work activities of the job.

### The Eader Preference Record

As indicated above, there have been several forms of the EPR. Form C, as used in this study, is a forced choice type of instrument composed of 50<sub>4</sub> activities arranged in 168 triads. It was designed for use with high school, college, and adult groups. The subject is directed to respond to two of each set of three activities in terms of (a) that activity which is most liked, and (b) that activity which is least liked. The responses are made with a stylus which registers the choice directly onto the answer pad. On the reverse side of the answer pad are printed sets of connected circles for each of the ten broad interest areas. These areas are Outdoor, Mechanical, Computational, Scientific, Persuasive, Artistic, Literary, Musical, Social Service, and Clerical. In addition to these ten areas, there is a verification score that indicates whether or not the form has been answered carelessly or insincerely. In responding to choices of most and least liked activities, the stylus punches through the answer pad into the circle or circles affected by that particular choice. The individual counts (scores) his responses for the verification scale and each of the ten interest areas. These scores are then plotted on the profile sheet provided, which also contains a percentile scale. Separate profile columns are provided for male and female subjects. Super (67, p. 445) cited the ease and speed with which the individual is able to complete and to score the EPR as an outstanding feature of this inventory.

The Manual (38, p. 3) suggests forty minutes for the completion of the inventory by adults and perhaps slightly longer for high school students.

#### The Sample

As mentioned above, the sample used in this study, although not a random sample, does have a wide geographic distribution. Former students of sixty-one secondary schools located in thirty-one states throughout the nation (see Appendix B) comprise the sample.

Obtaining the sample. An original list of names and addresses were obtained from two basic sources, the test author, and a group of selected secondary schools (hereafter referred to as "other secondary schools"). An initial listing of names was compiled from ETR answer pads, on file with the test author, that were completed in the spring of 1949 in sixteen high schools located in many parts of the nation. This group consisted of the names of 2,646 boys and 3,857 girls, a total of 6,503 names.

The principals, headmasters, and/or guidance directors of the sixteen high schools involved were sent a letter (see Appendix C) and a name list of those students formerly enrolled in their respective schools. The letter requested the current or last known address of each student. Addresses were received for 863 boys and 1,545 girls, a total of 2,408 names with addresses of students formerly enrolled in twelve of the sixteen schools. Four of the original sixteen schools could not be located, or failed to reply.

For additional names and addresses, a letter (see Appendix D) was sent to the principals of 2,000 secondary schools selected at random from the Directory of Secondary Day Schools for 1951 (51). This letter explained the nature of the study and requested the names, addresses, and scores of any former students who had taken the EPE—Vocational, Form C, between 1949 and 1952. These dates were selected to approximate the time of testing by the first group.

In addition to the letter, there was enclosed a set of report sheets (see Appendix E) to facilitate the compilation of the data, a perforated reply form below the letter to be used by those schools that did not have the requested information, and a self-addressed envelope for the return of the completed lists or the reply form. A postcard follow-up (see Appendix F) was mailed to all schools not having responded at the end of three weeks. The responses to these requests are shown in Table 4.

Lists of names, addresses, and scores were received from fifty-two schools. Three of these lists were unusable because of incomplete data, incorrect test dates, or other apparent discrepancies in the information received. The forty-nine remaining lists yielded names, addresses, and scores for 999 boys and 992 girls, a total of 1,991 usable cases. This number, combined with the group from the test author resulted in a sample of 1,862 boys and 2,537 girls, a total of 4,399 cases to whom the Information Form was mailed.

TABLE 1

## Requests for Additional Names, Addresses, and Scores

Item	Mailed	Received
Requests to schools	2,000	
Returned to sender by Post Office		9
Lists received		52
Data available, unable to comply		26
Data not available		614
No reply	-----	1,399
Total	2,000	2,000

The mailing of the Information Form. The initial mailing to the 4,339 cases described above consisted of a cover letter (see Appendix G), the Information Form, and a self-addressed postage free return envelope. The cover letter reminded the subject that he had taken the KPR in high school and briefly explained the study. Good and Scotts (26, pp. 607-08) suggested this as an effective technique to assure interest and a desire to cooperate.

In the early stages of the study, it was realized that the returns would be lower than those normally expected. Factors contributing to this were (a) the majority of the addressees received were addresses of the persons while they were enrolled in high school as long as nine years earlier, (b) changes in name of many of the female cases resulting from marriage, (c) obligation for military

service of many of the male cases had engendered loss of contact through former addresses, and (d) change in parental residence forestalled the forwarding of the Information Form in many instances.

The initial mailing of the Information Form was followed after a two-week interval with a post card reminder (see Appendix H) to those who had not responded. In instances where the post card follow-up was unsuccessful, a second reminder in the form of a brief letter was mailed two weeks later (see Appendix I). Approximately eight weeks after the original Information Forms were mailed, a brief explanatory letter was sent to all nonrespondents (see Appendix J). At the bottom of this letter, and separated from it by perforations, a shortened form of the Information Form was added. This short form follow-up contained items considered basic to the study and was so phrased to cover those questions on the Information Form which were primary to the identification of overall satisfaction with the present job. This series of follow-up devices was according to procedures suggested by Good and Sestes (26, p. 625).

The initial sample of 4,339 names with addresses to whom the Form had been mailed was decreased to a total base sample of 3,519 cases. This decrease was incurred by the return of 880 pieces of the first mailing or subsequent follow-ups by the Post Office because of "Expiration of forwarding address," "Forwarding address unknown," or "Unknown at this address." Completed Information

Forms received from the initial mailing and follow-up procedures totaled 1,411 forms, a return of 40.2 per cent of the base sample (see Appendix I).

Obtaining the interest scores. The interest scores for the subjects of this study were obtained from the two basic sources described above: (a) those scores on file with the test author, and (b) those scores received from other secondary schools located throughout the nation. To obtain the interest scores from source (a), respondents whose names were originally supplied by the test author were listed. This list was then sent to the test author with a request for the scores.

The scores for the remaining respondents had been received from source (b), the principals of the other secondary schools located throughout the nation. These principals had been requested to supply the names, addresses, and scores of any former student who had taken Form C of the KPI between 1949 and 1952.

All scores furnished by the test author, and the majority of the scores from other schools, were in the form of raw scores. Where percentile ranks had been received, these were converted to raw scores for the purpose of maintaining consistency when recording the data.

#### Summary

The Information Form used to gather data for this study was a questionnaire. A tentative form of this blank was subjected

to a try-out. On the basis of the findings of this try-out, some changes for the purpose of clarification and simplification were made. The Information Form as revised consisted of fifteen items. These items (a) requested personal data, (b) sought to identify and to gain information about the respondent's present job, (c) served as evaluative indicators of satisfaction with the present job, and (d) also served as secondary indices of job satisfaction to be used in adjusting the over-all satisfaction rating.

The measuring instrument used to identify earlier interests of the subjects was the Duder Preference Record—Vocational, Form C. In the discussion of this interest inventory the writer attempted to show the usability of this instrument with secondary school students.

The sample of names was obtained from the test author and from direct requests to principals of 2,000 secondary schools geographically distributed throughout the nation. There was a total of 4,339 names with addresses from both sources to whom the Information Form was mailed.

Of the initial mailing and subsequent follow-up procedures, 860 Forms were returned to the sender because of insufficient or incomplete addresses. This decreased the original sample of 4,339 cases to a base sample of 3,519 cases with sufficient addresses to effect delivery to the addressees or cooccupants at the given addresses. Completed Forms were received from 1,416 respondents, a return of 40.2 per cent of the base sample.

The interest scores were secured from the test author for respondents whose names appeared on the list supplied by him. Scores for the remaining respondents were on file, having been received with the names and addresses from the principals of the other secondary schools.

## CHAPTER IV

### DISTRIBUTION AND FOLLOW-UP

The fourth step projected in the general plan for the study is the concern of this chapter. More specifically, this step included the description of the working sample, the coding and scoring of the responses to the items on the Information Form, and the treatment of the data.

#### Distribution of the Working Sample

This follow-up study was made after an average of eight years following the administration of the KPR to the subjects as a phase of their high school counseling program. After this eight-year interval, it was found that the subjects had completed their education, and that they had been employed in their present and/or other occupations for periods ranging from six months to more than five years.

As with any sample selected on a basis of availability and willingness of the respondents to complete a form, the question immediately arises as to the characteristics of the nonanswering group. Southwick (58, p. 267) has noted that those occupationally best situated are more likely to answer. However, she found that respondents who are dissatisfied might also be expected to use a form of this type as a means of expressing their grievances. It was

considered during the planning of this study to interview some of those persons not replying. This was not possible because of the wide geographic distribution of the sample; therefore, the nature of the nonreply population remains unknown. The wide range of occupations represented in the returns appears to represent a typical cross section when compared with the functional distribution of civilian labor force (73). The working sample has a higher percentage of professional, clerical and kindred, and skilled workers; and a somewhat lower percentage of personal services workers than is shown in the functional distribution of civilian labor force. Table 5 shows a distribution of the working sample by occupations and sex. Additional distributions by occupations are to be found in Appendix L.

The working sample for this study includes those respondents from whom usable Information Forms were received. Of the total 1,311 Information Forms returned, 182 were rejected. The reasons for rejecting these 182 forms, and the number rejected for each reason are given in Table 6.

An examination of the remaining 1,232 Information Forms disclosed sixty-eight forms which had been incorrectly completed by housewives. The responses on these sixty-eight forms related to homemaking as the present job, rather than to a prior job held outside of the home. Although the data from these forms do not form a part of this study, they were posted to IBM cards for possible future analysis.

TABLE 5  
Working Sample by Occupations

Occupations <sup>a</sup>	Males		Females		Total	
	N	%	N	%	N	%
Professional	120	10.3	201	17.3	321	27.6
Semi-professional	63	5.4	34	2.9	97	8.3
Managerial	33	2.8	15	1.3	48	4.1
Clerical and kindred	58	5.0	293	25.2	351	30.2
Sales and kindred	42	3.6	26	2.4	70	6.0
Domestic services	2	.2	2	.2	4	.3
Personal services	5	.4	23	2.0	28	2.4
Protective services	9	.8	1	.1	10	.9
Agricultural and kindred	26	2.4	3	.2	31	2.7
Forestry	1	.1	-	-	1	.1
Skilled	100	8.6	3	.2	103	8.8
Semi-skilled	49	4.2	9	.8	58	5.0
Unskilled	31	2.7	11	.9	42	3.6
Total	541	46.5	623	53.5	1,164	100.0

<sup>a</sup>Classification according to Dictionary of Occupational Titles, Volume I, USWS, 1939.

The distributions of the remaining 1,164 respondents who comprise the working sample according to age and sex, education, and geographic location of the school in which the KPI had been administered to the subjects are presented in Tables 7, 8, and 9, respectively.

Additional descriptive data relating to the sample are to be found in Appendix E.

TABLE 6  
Reasons for Rejecting Information Forms

	%	%
Unable to identify respondent	12	6.6
No interest score available	14	7.7
Received too late to classify	22	12.1
Incomplete and/or insufficient data	44	24.2
Student	52	28.6
Member of the armed forces	20	11.0
Completed by other than addressee	8	4.4
Unemployed	5	2.7
Deceased	3	1.6
Other	2	1.1
Total	<hr/> 182	<hr/> 100.0

#### Coding and Scoring of Data

Each Information Form was assigned a five-digit identification number. The first two digits served to identify the school from which the respondent's address and interest scores were received, and the last three digits to identify the individual. Three-digit numbers, 001-199, differentiated original Information Form respondents from

those respondents replying to the shortened, follow-up Information Form. Those in the latter group were assigned sequence numbers 200-399.

TABLE 7  
Working Sample by Age

Age	Males		Females		Total	
	N	%	N	%	N	%
26 or over	26	1.4	4	.3	30	1.6
27	37	3.2	33	2.5	70	6.0
26	90	7.7	68	7.6	178	15.3
25	127	10.9	137	11.7	264	22.7
24	123	10.6	152	13.1	275	23.6
23	83	7.1	136	11.7	219	18.8
22	35	3.0	44	3.8	79	6.8
21	24	1.2	12	1.0	36	3.2
20 or less	16	1.4	17	1.5	33	2.8
Total	541	46.5	623	53.5	1,164	100.0
Median age	26.50		23.57		24.32	

Personal data and responses to items on the Information Form were coded and noted on a layout scheme sheet (see Appendix M) to facilitate the posting to IBM cards. The coding program in its entirety is presented in Appendix N.

TABLE 8  
Working Sample by Educational Level

Years of Education Completed	Males		Females		Total	
	N	%	N	%	N	%
more than 16	40	3.4	20	1.7	60	5.2
16	142	12.2	176	15.1	318	27.3
15	27	2.3	46	3.5	93	7.8
14	61	5.3	51	4.4	112	9.6
13	54	4.6	82	7.1	136	11.7
12	209	18.0	217	18.6	426	36.0
Less than 12	8	.7	13	1.1	21	1.8
Total	541	46.5	623	53.5	1,164	100.0
Median years of education completed	13.50		13.50		13.50	

Scoring of Information Form items. Responses to Information Form items V through XI were assigned score values 1, 2, or 3, representing low satisfaction through moderate to high satisfaction, respectively. For example, a response to item V, "Do you feel happy in your present job?" received a value of 3 if the respondent had checked the response "most of the time"; a value of 2, if the respondent had checked "about half of the time"; and a value of 1, if the respondent had checked "seldom (less than half of the time)." Items VII and XI were similarly scored.

TABLE 9

## Geographic Location of Schools Where EPI Was Initially Administered

Section and State	N	Section and State	N
<u>Northeast and Mid-Atlantic</u>		<u>North Central and Midwest</u>	
Connecticut	1	Illinois	1
Maine	2	Indiana	3
Massachusetts	2	Iowa	3
New Jersey	3	Kansas	1
New York	3	Michigan	5
Pennsylvania	2	Minnesota	2
Vermont	1	Nebraska	2
Virginia	1	North Dakota	1
<u>South Atlantic and South Central</u>		Ohio	3
Florida	1	South Dakota	1
Kentucky	1	<u>West and Southwest</u>	
Louisiana	1	Arizona	1
Mississippi	1	California	3
Missouri	2	Oregon	1
North Carolina	1	Washington	1
Oklahoma	1	Total	31
South Carolina	1	Total number of schools	61
Texas	4		
Total	31		

Items VI and I of the Information Form presented "yes" or "no" responses to be checked by the respondent, and these also received score values of 1, 2, or 3. The moderate, or 2 value, score was dependent upon qualifying statements, reasons, or causes given by the respondent. That is, if "yes" was checked in response to item VI, a score of 3 was awarded to the item, "Do you think you would like to be in the same general field of work as your present job five years from now?" A score of 1 was given if the response "no" was checked, unless a qualifying reason was given which did not reflect negatively upon the major interest aspects of the present job. Such a score would occur, for example, if a female respondent checked "no" to item VI (see above), but then stated that she hoped to be married five years later. This response in no way indicates dissatisfaction with any of the major interest aspects of the work in her present job, but rather, that her future goal in life is to become a housewife and/or mother. In such instances the response received a score of 2.

Item I, "Have you ever seriously thought of changing from your present kind of work?" presented a similar scoring situation. Here, however, values were reversed, with the "yes" response having a value of 1, and the "no" response having a value of 3. A score of 2 on item I was assigned if reasons given for considering a change were related to such extrinsic elements of the job as pay, hours, location, etc., instead of to major interest factors in the work.

Identification of some of the activities of his job, and how the respondent perceived the content of his job, were the bases for the inclusion of items VIII and II. These items were not primary determinants of the over-all rating for job satisfaction, but served to verify or reinforce other items as well as the over-all satisfaction rating. However, responses to these two items also were scored 1, 2, or 3. For example, if in response to item VIII, "(a) What work or kinds of things that you do in your present job do you like most?" and, "(b) What work or kinds of things that you do in your present job do you like least?" the respondent indicated that those job activities which he liked most were intrinsic factors in the job, or reflected the major interest classification(s) of the occupation, the response was scored 3. Accordingly, a score of 1 was assigned if those activities which he liked least were intrinsic aspects in the job itself. A moderate score value of 2 was given when least liked activities did not reflect negatively upon intrinsic elements in the present job.

For item II, "(a) Which do you receive the most pleasure from? Work done on the job (or) Things or work done in your spare time?" "(b) What work or kinds of things do you do in your spare time?" a score of 3 was assigned if the work done by the respondent was preferred to the work or activities done in his spare time. If spare time work or activity was indicated as most pleasurable, the item received a score of 1. However, a score value of 2 was assigned when a preference for spare time work or activities was

checked if, when listed, these activities revealed interests similar to those found in the respondent's present job. Such would be the case if a school teacher who professed to be dissatisfied with his present job of teaching checked a preference for spare time activities and then proceeded to list such spare time activities as teaching Sunday School, working with Scout groups, or other activities involving aspects similar to his teaching job.

The coding of item III responses was in accordance with the Ederer "Classification of Occupations According to Major Interests" (36, pp. 5-13). This item gave the respondent an opportunity to make a "wide-world" choice of a job, that is, future job aspiration in contrast with future job expectation. The compatibility of the job aspired to was determined and then compared with the compatibility status of his present job. No score value was assigned to item III.

Responses to the first unnumbered item following item III, "Perhaps you would like to express in your own words how you feel about your present job; if so, please use the space below," were coded using a two digit code. No rationale was used in arriving at the coding system for this item. The feelings about present jobs expressed in response to this item were coded in the order in which they were read.<sup>1</sup> Score values were not assigned to this item, although it did aid in arriving at over-all satisfaction ratings.

Overall Satisfaction Score. The evaluative criteria for the job satisfaction rating can be classified as (a) responses to

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<sup>1</sup>Expressed feelings about present job (see Appendix C).

items V, VI, VII, I, and II, which directly relate to job satisfaction (e.g., job liked, feelings of happiness in present job); and, (b) responses to items VIII and IX which indirectly relate to satisfaction with present job (e.g., preference for job activities or spare time activities, those elements of work in the present job most liked and least liked by the respondent).<sup>1</sup> To obtain the over-all satisfaction score, the mean was determined first for items V, VI, VII, I, and II. Each mean was then adjusted intuitively according to the scores for the responses on items VIII and IX, and the first unnumbered item following item III. For example, if the mean score for the five primary items was 2.3, an over-all satisfaction rating of 2 was assigned if the responses to the three secondary items were 1 or 2. An over-all satisfaction score of 3 was assigned if the composite score for the secondary items was close to 3. The lower limit for a score of 3, based upon the mean of the five primary items before adjustment was 2.3. The upper limit for a score of 2, based upon the primary items was 2.4. Similarly, the lower limit for an over-all satisfaction score of 2 was 1.3, and the upper limit for a score of 1 was 1.4.

The reliability of this over-all satisfaction score was established by selecting a random sample of 100 cases from the total working sample and comparing scores assigned by the author with scores given by an independent rater. A product-moment

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<sup>1</sup> Responses to all items, by level of over-all satisfaction, are presented in Appendix P.

coefficient of correlation was obtained. Statistical procedures were according to Walker and Lev (75, p. 234). This coefficient of agreement ( $\gamma$ ) was .88, for which the 95 per cent confidence interval is .83-.92.

#### Treatment of the Data

Job and interest classifications. Job classifications were made of the respondent's present job, or the last job held if the respondent was a housewife, a member of the armed forces or a student. This classification was made on the basis of interest factors involved in the job. For this classification, Kuder's "Classification of Occupations According to Major Interests" (38, pp. 5-13) was used, which lists jobs in fifty-five categories according to major interests involved.<sup>1</sup> The comparison of this classification with the respondent's earlier measured high interests was used to determine the compatibility status of his present job. If the job could not be classified immediately under the Kuder system, the writer used the job description in the Dictionary of Occupational Titles, Volume I (74)<sup>2</sup> as a guide and placed the job in a Kuder category which appeared appropriate.

Compatibility status of present job. The raw scores for the individual's interests, as measured by the EPR several years earlier, were converted to percentile ranks. The two interest

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<sup>1</sup>Major classification of jobs by Kuder (Appendix Q).

<sup>2</sup>Major classification of jobs by DOT (Appendix B).

areas corresponding to the two highest percentile ranks were then posted to the IBM cards. If either of the respondent's two major interest areas corresponded to the Euder classification of his present job, his present job was designated "compatible" with an earlier measured high interest area. Where occupations had been classified by Euder, not under a single interest area, but under a combination of interest areas (such as Literary-Clerical), the job was designated "compatible" if either of the respondents' two major interest areas corresponded to either of the two interest areas comprising the combination occupational classification. A respondent's present job was considered "incompatible" if the major interest areas of the job, according to the Euder classification, did not align with either of his major interest areas in the above

An examination of Table 10 reveals levels of over-all satisfaction expressed by the respondents in compatible and incompatible job categories.

In general, persons in present jobs which are compatible with earlier measured high interests, expressed a high level of satisfaction (over-all satisfaction score of 3) more frequently than did those persons in present jobs which are incompatible with their earlier measured high interests. The significance of the difference between compatible and incompatible job groups with respect to over-all job satisfaction was determined by the use of the chi-square test (75, p. 101) for which a value of 104.5

was found. A chi-square value of 13.8 is significant at the 0.1 per cent level for two degrees of freedom. This finding provides an affirmative answer to the first question of this study, "Is a high degree of job satisfaction reported more frequently by persons with present jobs that are compatible with earlier measured high interests than by those persons with present jobs which are incompatible with earlier measured high interests?"

TABLE 10

Over-All Satisfaction Ratings for Compatible and Incompatible Job Holders

	Satisfaction Rating						Total	
	1		2		3			
	N	%	N	%	N	%	N	%
Compatible job	61	5.3	215	18.5	452	38.8	728	62.6
Incompatible job	111	9.5	176	15.1	149	12.8	436	37.4
Total	172	14.8	391	33.6	601	51.6	1,164	100.0

The relationship between interest, as a determinant in selecting a job, and later satisfaction with that job is shown in Table 11. Reasons given by the respondents for selecting their present jobs were classified into thirty-four major categories.<sup>1</sup> Of these, fourteen categories indicated that interest factors, directly or indirectly, were the reasons for choosing the particular job. The remaining

<sup>1</sup>Reasons for selecting present job (appendix 5).

twenty categories indicated that noninterest factors were involved in the selection of the particular job.

TABLE 11.

Over-All Satisfaction Ratings for Jobs Selected on Basis of Interest and Noninterest Factors

Item	Satisfaction Rating			Total	
	1 %	2 %	3 %		
Interest	49	44.2	19.1	16.4	430 37.0 670 57.6
Noninterest	123	10.5	200	17.2	171 14.7 494 42.4
Total	172	14.7	391	33.6	601 51.7 1,164 100.0

The group which had selected their present job because of interest factors expressed a high level of satisfaction (over-all satisfaction score of 3) more frequently than did the group which had selected their present job because of other than interest factors. This difference, when tested by the chi-square technique, was found to be statistically significant. For two degrees of freedom, a chi-square of 13.8 is significant at the 0.1 per cent level. The chi-square value for the data shown in Table 11 is 135.95. This finding warrants a positive answer to the second question of this study, "Do persons who select their present jobs because of interest, or for some reason reflecting interest factors, express over-all satisfaction with their present jobs more frequently than persons who select their present jobs for noninterest reasons?"

Relative to interests as a basis for job choice, there was found also a significant difference ( $p < .001$ ) between those respondents in compatible jobs and those in jobs which were incompatible with earlier measured high interests. These data are presented in Table 12. The chi-square value for these data was 28.86. For one degree of freedom, a chi-square value of 10.8 is significant at the 0.1 per cent level.

TABLE 12

Compatibility Status of Present Job and Reason for  
Selecting Present Job

Item	Compatible Job		Incompatible Job		Total	
	n	%	n	%	n	%
Interest based job choice	448	38.5	222	19.1	670	57.6
Noninterest based job choice	280	24.0	214	18.4	494	42.4
Total	728	62.5	436	37.5	1,164	100.0

To discover the relationship between the respondents' present job compatibility status and the compatibility status of the job aspired to, a two-step analysis was employed. The respondents were grouped according to (a) low over-all satisfaction (over-all satisfaction score of 1) with their present job, and (b) moderate or high over-all satisfaction (over-all satisfaction score of 2 or 3) with their present job. These groupings were decided upon in view of

Strong's statement (3, p. 385) that the validity criterion of an interest test should not be a high degree of satisfaction, but "reasonable" satisfaction.

Table 13 presents the relationship between present job compatibility to the compatibility status of the job to which the individual aspires for that group expressing moderate or high overall satisfaction. In other words, "Do people aspire to jobs similar in compatibility status to their present jobs?"

TABLE 13

Compatibility Status of Present Job and of Aspired to Job for Respondents with Moderate or High Over-all Satisfaction Ratings

Item	Compatible Job Aspiration		Incompatible Job Aspiration		Total	
	N	%	N	%	N	%
Compatible present job	257	25.9	410	41.3	667	67.2
Incompatible present job	19	5.0	276	27.8	325	32.8
Total	306	30.9	686	69.1	992	100.0

Employment of the chi-square test resulted in a value of 56.8 for the data in Table 9. A chi-square of 10.8 is significant at the 0.1 per cent level for one degree of freedom. This analysis indicates that persons who are at least moderately satisfied with their present jobs aspire to other compatible jobs if their present jobs are compatible, and to other incompatible jobs if their present jobs are incompatible.

Table 14 presents data relating the compatibility status of present jobs to the compatibility status of aspired to jobs for those respondents expressing a low level of satisfaction with their present job. The calculated chi-square value for these data was 3.5, which is below the 3.8 value required with one degree of freedom for the 5 per cent level of significance.

TABLE 14

Compatibility Status of Present Job and of Aspired to Job for Respondents with Low Over-All Satisfaction Ratings

Item	Compatible Job Aspiration		Incompatible Job Aspiration		Total	
	N	%	N	%	N	%
Compatible present job	28	16.3	33	19.2	61	35.5
Incompatible present job	35	20.3	76	44.2	111	64.5
Total	63	36.6	109	63.4	172	100.0

An examination of the data and the findings of Tables 9 and 14 provides an answer to the third question of this study. "What is the relationship between an individual's over-all satisfaction with his present job, whether it is compatible or incompatible with earlier measured high interests, and the compatibility status of a job to which he may aspire?" Respondents who expressed moderate or high over-all satisfaction (over-all satisfaction scores of 2 or 3) with their present jobs aspire to jobs with a compatibility status similar

to that of their present job, while those respondents who expressed a low level of over-all satisfaction (over-all satisfaction score of 1) with their present jobs did not clearly show such a tendency.

#### Summary

A working sample of 1,164 usable Information Forms remained of the total 1,816 forms completed and returned. This decrease resulted from the rejection of incomplete forms, forms from students, members of the armed forces, and the elimination of those forms inaccurately completed by housewives. The data from these usable forms were coded and scored and an over-all satisfaction rating was determined for each of the respondents. This coded information was posted to IBM cards from layout scheme sheets. Various machine treatments were made of these data cards for further analyses of the working sample.

Two major classifications of the respondents were (a) those whose present jobs were compatible with their earlier measured high interests, and (b) those whose present jobs were incompatible with their earlier measured high interests. In general, there are differences in the degree to which these two groups expressed over-all satisfaction in their present jobs.

Specifically, a high level of over-all satisfaction, as measured in this study, occurs more frequently for the compatible job holding group. Also, the group with compatible present jobs gave interest, or an aspect of interest, as the reason for choosing

their present job more frequently than did the group with incompatible jobs. Furthermore, the level of satisfaction for the compatible job holders was significantly higher than that for the incompatible job holders, when interest or an aspect of interest was the determining factor in the selection of their present job.

Finally, it was shown that those respondents reporting a moderate or high level of satisfaction (over-all satisfaction scores of 2 or 3) with their present jobs aspired to jobs with a compatibility status similar to that of their present jobs, whether their present jobs were classified as compatible or incompatible with earlier measured high interests. Those individuals rated as having expressed low satisfaction (over-all satisfaction score of 1) with their present jobs, however, did not show a distinct tendency in this respect.

## CHAPTER V

### SUMMARY, CONCLUSIONS AND IMPLICATIONS

#### Summary

The purpose of this study was to investigate the relationship between present job satisfaction and earlier interests as measured by the Kuder Preference Record—Vocational Form C. Specifically, the study was to seek answers to these questions:

1. Is a high degree of job satisfaction reported more frequently by persons with present jobs that are compatible with earlier measured high interests than by those persons with present jobs which are incompatible with earlier measured high interests?
2. Do persons who have selected their present job because of interest, or for some reason reflecting interest factors, express over-all satisfaction with their present job more frequently than do persons who have selected their present job for noninterest reasons?
3. What is the relationship between an individual's over-all satisfaction with his present job, whether it is compatible or incompatible with earlier measured high interests, and the compatibility status of the job to which he aspires?

An examination of related literature in the field of job satisfaction provided the foundation for the development of the

Information Form which was used to gather data about the (a) nature of present employment, and (b) the feelings expressed by the respondent about his present job.

The Information Form was sent to former secondary school students for whom KPR results were available. From the initial mailing and subsequent follow-up procedures, 1,414 completed forms were received, a return of 40.2 per cent. Two hundred-fifty of the forms received were unusable and were rejected. The working sample was composed of the remaining 1,164 cases.

The responses to the items on the Information Form were scored and/or coded. The score values provided a base for ascertaining an over-all job satisfaction rating. The coded data, score values for the individual items, and the over-all satisfaction rating were transferred to layout scheme sheets and posted to IBM data cards. The raw scores made on the KPR some years earlier and the individual's two highest ranking areas of interest were also included on the IBM data cards.

The compatibility status of the individual's present job was determined by matching his two highest ranking interest areas with the classification of his present job. The job classifications were based upon major interest factors involved in the work.

The statistical treatment of data disclosed significant differences in levels of expressed job satisfaction between the groups with compatible and incompatible present jobs.

Results

Each of the questions initially considered was subjected to statistical interpretation. On the basis of the findings from the statistical treatment, certain conclusions are warranted.

1. A high degree of job satisfaction is reported more frequently by persons with present jobs that are compatible with earlier measured high interests than by those persons with present jobs that are incompatible with earlier measured high interests.
2. Persons who had selected their present job because of interest, or for some reason reflecting interest factors, expressed over-all satisfaction with their present job more frequently than did persons who had selected their present job for other than interest factors.
3. When interest, or some reason reflecting interest factors, had been the basis for choosing their present job, the respondents tended to express a higher degree of over-all satisfaction with their present job.
4. Compatibility of the individual's present job with his earlier measured high interests was found to exist more frequently when interest was given as the deciding factor for selecting the job.
5. Respondents rated in this study as expressing high or moderate over-all satisfaction with their present jobs aspired to jobs with a compatibility status similar to that of their present jobs.

6. Respondents rated in this study as expressing a low level of over-all satisfaction with their present jobs did not show a definite preference in aspirations for either compatible or incompatible jobs with their earlier measured high interests.

#### Implications

For counselors. Results of this study suggest one significant implication for counselors and teacher-counselors at the secondary school level. These results justify confidence in the use of the Euler Preference Record—Vocational, Form C at the secondary school level for the purpose of identifying interests in the process of vocational counseling. If a student is given the opportunity to explore and understand better the availability in the world of work of those jobs that are compatible with his high measured interests the probability of his selecting a suitable occupation should increase. This does not, however, lessen the importance of supplemental measures of ability, personality, or achievement.

Employment counselors, also, should consider interests in the placement of employees, thereby assuring job satisfaction for many individuals. It would appear that increased morale and decreased personnel turnover would be concomitant results of such placement.

For educators. The ideas which follow represent attempts to relate some of the conclusions of the present study to the broad field of education. These projections may have been extended beyond the data upon which the conclusions themselves were based. The

writer assumes full responsibility for these extensions and hopes that ideas or questions which may arise can serve to provoke further exploration.

Teachers and administrators are often confronted with only a small percentage of the student body participating in the extra-curricular activities. Yet this phase of education is regarded by the schools as important. An implication seems to be that the KPR results could be used to assist the school administrators and teachers in developing extra-curricular activities that would provide for wider participation by the student body.

The results of the study seem to corroborate the thesis that individuals are more satisfied when performing duties or activities which are in line with their measured preferences. This means, it appears, that a higher level of achievement may result when interest factors are recognized when selecting content materials for courses. This would be true especially to the extent that instruction could be individualized.

It would appear that interests which aid as predictors of job satisfaction could serve also as predictors of academic satisfaction. This may require some degree of homogeneous grouping of students according to high ranking interests, or general overall interest patterns. Course content material could then be selected on the basis of maximum compatibility with these interests.

Similarly, it would appear that librarians in secondary schools could use measured interests as a criterion for the selection

and recommendation of books and other materials. The poor reader, particularly, may receive greater satisfaction if the material is consistent with his preferences.

For research. During the present study, several related problems emerged. Following are some of the questions and areas of possible research that were felt to merit investigation:

1. Are there responses or patterns of responses to items on the KPI which would be of value in the identification of probable satisfaction or dissatisfaction for women as homemakers?
2. Is the relationship of satisfaction in the present job and earlier measured high interests a basis for predicting success in occupations from earlier measured high interests?
3. Are changes in employment by individuals toward increased compatibility status of the new jobs with earlier measured high interests caused?
4. Does high over-all satisfaction in a present job, which is incompatible with earlier measured high interests, result from enthusiasm, industriousness, persistence, etc., or have new patterns of interest been developed by the individual?
5. Does a job selected by the individual on the basis of interest have greater holding power than a job selected for other than interest factors?
6. What are the characteristics of the nonreply portion of the sample used for this study?

7. Does expressed job dissatisfaction result from unfulfilled interest needs or from a conflict between the individual's level of occupational aspiration and the available vocational opportunities?

8. To what extent do secondary schools follow-up school drop-outs as well as graduates in an effort to improve their guidance programs?

It is felt that additional studies in this area are needed to develop a more adequate measure of intrinsic satisfaction with a job. Also, the identification and inclusion of additional job titles in the Kuder classification of occupations according to major interests is needed.

## **APPENDICES**

## APPENDIX A

MELVIN-KLEINER RESEARCH PROJECT  
College of Education  
University of Florida  
Gainesville, Florida

### INFORMATION FORM

I	Name Mr. Miss Mrs.	If Mrs., please give full name, such as Mary Ann Smith	Age			
II	Present address	Street and number	City and state	State	Degree	Major(s)
III	Highest grade in school completed	High School	College	Other		
IV	Job history since leaving high school:					
(a)	List jobs you have held six months or longer. Begin with your present job then your previous job, your next previous job, etc., in order. Please list any time spent in college, or trade school, the armed forces, etc., as a job held. Indicate approximate number of months such job was held. Under activities or hobbies, please be specific—if you are a salesman, what do you sell? If you are a factory worker, what kind of work do you do and with what products? If you are a laborer, what do you do most of the time? etc. See the example below. (Forms: Household should consider holding as a job held.)					

(Please go to the next page.)

Job Title	Name of Job or Job Title	Activities or Duties	Reason for Accepting Job	Last this on Job	Reason for Leaving Job
Example	Bookkeeper	Keep accounts	Good pay - like the work	22	Better oppor- tunity
Present Job					
Previous Job					
(A) Next Pre- vious job					
(B) Next Pre- vious Job					
(C) Next Pre- vious Job					
(D) Next Pre- vious Job					
(E) Next Pre- vious Job					
(F) Next Pre- vious Job					

(See the back of this form if more than six jobs have been held since leaving high school.)

- (b) Now please go back and check ( ) in 'Job Liked' column the jobs you liked.

**NOTE:** Persons who are now members of the armed forces, colleges or trade schools stu-  
dents, or housewives, should relate questions V through XI to last job held.

- V Do you feel happy in your present job? (Please check one)

Most of the time \_\_\_\_\_ About half of the time \_\_\_\_\_ Seldom (less than half of the time)

(Please go to the next page)

- VI (a) Do you think you would like to be in the same general field of work as your present job five years from now?

Yes

No

- (b) If not, what would you like to be doing five years from now?
- 

- VII How do you feel about your present work insofar as the work is concerned? Suppose that the pay, hours, location, etc., were all satisfactory, how do you feel?

More happy than most people you know who do the same kind of work  
 As happy as most of the people doing the same kind of work  
 Less happy than most of the people doing the same kind of work

- VIII (a) What work or kinds of things which you do in your present job do you like most?
- 

- (b) What work or kinds of things which you do in your present job do you like least?
- 

- IX (a) Which do you receive the most pleasure from?

Work done on the job

Things or work done in your spare time

- (b) What work or kinds of things do you do in your spare time? Again, please be specific, such as gardening, hobbies (kind), club work, etc.
- 

- X (a) Have you ever seriously thought of changing from your present kind of work?  Yes  No

- (b) If yes, why have you thought of changing?
- 

(Please go to the next page)

(c) If yes, what has kept you from making a change?

---

II If the pay, hours, location, etc., were all equal, which of the following would you choose?

The job you now have

The same kind of job with some changes

What kind of changes would you suggest? \_\_\_\_\_

A different kind of work entirely

III (a) If given a choice of any job in the world, what would you most like to do? Suppose that the pay, hours, location, etc., were all equally satisfactory; consider only the actual work you would be doing in the job.

---

(b) Why would you like to be doing this kind of work?

---

Perhaps you would like to express in your own words how you feel about your present job, if so please use the space below.

---



---



---

Listed below are different kinds of work and things that are done in different jobs. We would like to know which of these kinds of things are done in your job(s). You can show this by checking () each kind of work that you do opposite that kind of work or thing done in each job column. For example, starting with column (A)—Present Job, you would check each kind of work or thing done in your present job some or all of the time. You would not check those kinds of work or things which are not done in your present job; these spaces would be left blank. Now do this for each of your other jobs in the order they were listed on page one of this form.

(Please go to the next page)

Kindred of Wolfe or These Two

Kinds of Work or Things Done		Places Where Work Is Done			
		(A)	(B)	(C)	(D)
MANUFACTURE	Working with plants, machines, materials work, truck drivers, etc.				
TECHNICAL	Working with machinery, tools, engineering- ing, building and construction jobs, soldering of metals, estimations, calculations, etc.				
INVESTIGATIVE	Research, working with experiments, new facts, new processes, etc.				
RELATIONAL	Selling, organizing, handling personnel, involvement with people, etc.				
CARTOGRAPHIC	Creative work, in the fine arts in any way, design work in industry, etc.				
ARTISTIC	Working with books, writing, library work of any kind, etc.				
PERSONAL	Performing or working in any way with people, etc.				
SOCIAL SERVICE	Helping people by working with them, teaching, etc.				
OFFICIAL	Office work of any kind, typing, compil- ing and maintaining records, etc.				

Please return this form to **Nichols-Tucker Research Project**  
College of Education  
University of Florida  
Gainesville, Florida

## APPENDIX B

### SECONDARY SCHOOLS PARTICIPATING IN THE STUDY

#### From Test Author

Bend High School, Bend, Oregon  
Berwick High School, Berwick, Pennsylvania  
Canyon Union High School, Canby, Oregon  
George Washington High School, Alexandria, Virginia  
Girls' Latin School, Boston, Massachusetts  
Jones County Junior College, Ellisville, Mississippi  
Lafayette Vocational High School, Lexington, Kentucky  
Menaquan High School, Menaquan, New Jersey  
Mason City Independent School District, Mason City, Iowa  
Union High School, Sweet Home, Oregon  
Santa Paula High School, Santa Paula, California  
"Resurrection Junior High School, Chicago, Illinois  
"Somerville High School, Somerville, New Jersey (?)  
"South Houston Junior High School, South Houston, Texas  
"Tandy Roosevelt Hsgl. School

#### From Other Secondary Schools

Edward Little High School, Auburn, Maine  
Westside High School, Anderson, South Carolina  
Dalton High School, Dalton, Ohio  
Madras Union High School, Madras, Oregon  
Flandreau High School, Flandreau, South Dakota  
Canton High School, Canton, New York  
Vergennes High School, Vergennes, Vermont  
Desloge High School, Desloge, Missouri  
Ouachita Parish High School, Monroe, Louisiana  
Alvin High School, Alvin, Texas  
Starkville High School, Starkville, Mississippi  
Spencer Public High School, Spencer, Iowa  
Memorial High School, St. Marys, Ohio  
New Britain Senior High School, New Britain, Connecticut  
Anderson High School, Austin, Texas  
Tucson Union High School, Tucson, Arizona

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\*Unable to locate or no reply.

Otsego Central High School, Otsego, New York  
Pavilion Central High School, Pavilion, New York  
Hinckley High School, Hinckley, Minnesota  
Tipton High School, Tipton, Indiana  
Hannibal Senior High School, Hannibal, Missouri  
Valdese High School, Valdese, North Carolina  
Deckerville Community High School, Deckerville, Michigan  
Wakefield High School, Wakefield, Michigan  
Seneca-Cortland-Potter Central High School, Cortland, New York  
Stroudsburg Public High School, Stroudsburg, Nebraska  
Bangor High School, Bangor, Maine  
Oliver Ames High School, North Easton, Massachusetts  
Franklin High School, Franklin, Indiana  
Madison Consolidated School, Madison, Indiana  
Winona High School, Winona, Minnesota  
Zeeland High School, Zeeland, Michigan  
Greencastle Union High School, Ellitsburg, Pennsylvania  
Guthrie High School, Guthrie, Oklahoma  
West Branch High School, West Branch, Michigan  
Naches-Valley High School, Naches, Washington  
Keokuk High School, Keokuk, Iowa  
Mt. Diablo High School, Concord, California  
Pikesgrove Public School, Woodstown, New Jersey  
West Allegheny Senior High School, Oakdale, Pennsylvania  
McComb High School, McComb, Mississippi  
Walsh County Agricultural High School, Park River, North Dakota  
Gordon High School, Gordon, Nebraska  
Irving High School, Irving, Texas  
LaMarque High School, LaMarque, Texas  
Worthington High School, Worthington, Ohio  
Melbourne High School, Melbourne, Florida  
Marine City High School, Marine City, Michigan  
East Highland High School, Glencoe, Illinois

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\* Unable to use data because of dates.

APPENDIX C

LETTER TO PRINCIPALS, HEADMASTERS, AND/OR GUIDANCE DIRECTORS  
REQUESTING ADDRESSES OF FORMER STUDENTS

Dear \_\_\_\_\_:

This letter is not a request for money!

We are asking for something much more valuable—the assistance of you and former students at \_\_\_\_\_ School, who participated in the initial phase of this study, in developing improved methods for helping young people choose their occupations with greater present assurance of satisfaction in their future work.

A widely applied assumption in vocational counseling is that there are "compatible" patterns of measured interests for various occupations. In individual counseling it is frequently assumed that a young person who has measured interests like those of musicians, for example, might seriously consider a career in music. There is a lack, however, of information which would show whether or not a person does find more job satisfaction when he is employed in an area of work for which his measured interests are "compatible."

We are interested in determining the relationship between measured interests and later job satisfaction. To obtain the data for this we shall need the assistance of a relatively small, but carefully chosen group of officials like yourself. The purpose of this letter is to ask for your cooperation.

This study concerns former students at the \_\_\_\_\_ School, and a few other selected high schools, who completed the Kuder Preference Record, Form C, during the spring of 1949. On the enclosed report sheets you will note a "Current or Last Known Address" column has been included in addition to the names and ages of these former students. Although some of the addressees may appear quite old, we should like to have the last known addresses of each of the students listed. Where the married name of a girl is known, it will help if the new name is inserted above the name as listed. These should make contact possible with at least a portion of the individuals. We are interested in all the students listed regardless of whether or not they were graduated.

In return for your cooperation, we shall send you a full report of the results as soon as they are complete. Since the sample from which the data are obtained will constitute, insofar as possible, a representative sample of the entire, employed, national population, these results should be of a great value to your counselors in their vocational guidance work. ~~We know that these~~ are not adequate rewards for your cooperation, but we are hoping you will be kind enough to help anyway.

We are well aware of the all-too-busy schedules to which school counselors, teachers, and administrators must adhere in this current age of overcrowded schools. Hence, we do not need to emphasize how appreciative we should be for your cooperation.

Sincerely yours,

Glenn G. McRae

## APPENDIX D

### LETTER TO OTHER SECONDARY SCHOOLS REQUESTING ADDITIONAL NAMES, ADDRESSES, AND SCORES

MCRAE-KUDER RESEARCH PROJECT

College of Education  
University of Florida  
Gainesville, Florida

1 March 1958

Dear Sir:

As you know, the Kuder Preference Record is the most widely used measure of vocational interests in the United States today. Therefore, the validity of its results is a matter which directly affects the vocational planning of thousands of high school students.

Dr. Frederic Kuder, author of the Preference Record, is currently interested in determining the exact degree of relationship between measured Kuder interests and later job satisfaction. The Preference Record has now been in use long enough so that a definitive study can be made of this problem by means of follow-up letters.

To obtain the data needed for this study, and the information by means of which the Preference Record can be still further improved, we need the assistance of many school officials like yourself. The purpose of this letter is to ask for your cooperation.

In order to carry out this follow-up study, we need the names, current addresses (or last known home addresses), and Kuder Form C scale scores of former students who took the Kuder Preference Record in high school between 1949 and 1952. If the Preference Record, Form C, CB or CM, were administered in your school during these years, we should greatly appreciate your sending us this information, if it is available.

To facilitate recording of the names, addresses, and scores, report sheets have been prepared and are enclosed for your use. You will note on these sheets that a "last known home address" column has

also been included. If you do not keep a follow-up record of current addresses for your former students, we should like to have their addresses while registered in high school. These should enable us to get in touch with at least a portion of the individuals involved.

Also enclosed with this letter is a brief reply form for use if the data we request are not available. If you did not use the Index in your school during this period, returning this reply form in the enclosed envelope would help us greatly in keeping our control records straight.

We are interested in all students tested with the Preference Record regardless of whether or not they were graduated; no extra clerical work on this point will be required. For our purposes, the earlier the date of the test (Spring or Fall of 1949), the better.

In return for your cooperation in this study, we shall send you a full report of the results as soon as they are complete. Since the sample from which the data are obtained will constitute, insofar as possible, a representative sample of the entire, employed, national population, these results should be of great value to your counselors in their vocational guidance work.

We are well aware of the all-too-busy schedules to which school counselors, teachers and administrators must adhere in this current age of overcrowded schools. Hence, I do not need to emphasize how appreciative we should be for your help in this research.

Sincerely,

Glenn G. McNamee

/t  
Enclos. (3)

ENCLOSURE

The Index Preference Record Data  
You Requested Are Not Available

(Signed) \_\_\_\_\_ Position \_\_\_\_\_  
 Name of School \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_

APPENDIX

RESPECT YOUR AUTHORITY  
DATA ON FUTURE STUDENTS WHO TOOK THE AUTHORITY PERSPECTIVE 1950-1953

APPENDIX F

POSTCARD FOLLOW-UP TO "OTHER SECONDARY SCHOOLS"

Dear Sir:

You will be interested in knowing that we have been receiving fine cooperation from the school officials to whom we recently sent the request for names, last known addresses, and scores for those former students who took the Under Preference Record—Vocational, Form C, between 1949 and 1952. If you have already returned your reply, please accept our thanks.

If you have not yet returned the list, or the reply form which was attached to the letter of request, won't you please let us hear from you soon? Your doing so will be a real help in developing better methods for helping young people find suitable life occupations.

Sincerely yours,

APPENDIX G

COVER LETTER ACCOMPANYING INFORMATION FORM TO SUBJECTS

McRAB-KUDER RESEARCH PROJECT

College of Education  
University of Florida  
Gainesville, Florida

1 March 1958

Dear Reader:

You will no doubt recall that when you were a student in high school you took the Kuder Preference Record—a checklist designed to help young people identify their likes and dislikes for the things they do. When these likes and dislikes are known, a person may explore possible occupations with more assurance of being satisfied with the work he finally chooses. Now we need your help to determine how effective the checklist really is.

Take your own case, for instance. Does the work you do in your present job involve the same likes and dislikes you expressed in high school? Or do so many other things affect job satisfaction that interest measures of this kind are of little or no value?

We are attempting to answer questions such as these at the University of Florida. You can help if you will complete and return the enclosed Information Form. The information you give will be held strictly confidential.

Some of the questions on the form may seem difficult or too involved, while still others may appear to ask the same thing; but there is a carefully determined reason for every question. Each answer you give is very important. Your answers will assist in developing better ways of helping young people decide about their life's work. Findings from this particular study could result in better ways of aiding your own child in selecting his future vocation.

A self-addressed envelope has been enclosed, which requires no postage, for the return of the Information Form. Thank you in advance for your cooperation. And if I may ask one more favor, a prompt return of the form will be greatly appreciated.

Yours sincerely,

Glenn G. McNamee

P. S. If you are now a member of the armed forces, a college or trade school student, a housewife, or if for any other reason parts of the Information Form may not seem to apply to you, won't you complete as much as you can and return it soon? Thank you again for your help.

APPENDIX H

POSTCARD FOLLOW-UP TO SUBJECTS

McRae-Kuder Research Project Box 2078, University Station  
University of Florida, Gainesville, Florida

You will be interested in knowing that we have been receiving fine cooperation from the persons to whom we recently sent the Job Information Form. If you have already returned your blank, please accept our thanks.

If you have not yet returned the blank, won't you please fill it out and send it in soon? Your doing so will be a real help in developing methods for helping young people find suitable occupations.

Sincerely yours,

Glenn G. McRae

## APPENDIX I

### REMAINDER FOLLOW-UP LETTER TO NONRESPONDENTS

Dear Reader:

A few weeks ago we mailed a form to several hundred young people seeking information about their present jobs. There was a copy of the form sent to you at this address. Was it received? Many of the addresses which we had were not up-to-date and probably necessitated considerable forwarding. Perhaps this is the reason you have not received yours, or that your reply has not been received. If you have returned the form, please accept our thanks.

The information we obtain will be used, along with other information about the person's interests as measured in high school, to discover better ways of helping young people choose their future occupations.

If you did not receive the form, we will be happy to send a second one if you will supply us with your present address. The enclosed envelope, which requires no postage, may be used for this purpose.

Sincerely yours,

Glen G. Makos

APPENDIX J

LETTER AND SHORT FORM TO WORKRESPONDENTS

McRAE-KUHN RESEARCH PROJECT

College of Education  
University of Florida  
Gainesville, Florida

Earlier this year, we mailed to thousands of young people throughout the country a request for information about their work and how they felt about the work they were performing. This information is to be used, along with other information about the person's interests as measured in high school, to discover better ways of helping young people choose their future occupations.

One of these forms should have been received by you, but since it has not been returned, we feel that it may have been lost. Many of the forms have been forwarded as many as four and five times.

At the bottom of this page is a shortened form which will give us the basic information we need. Please complete the form, tear it off and mail it in the enclosed postage-free envelope today. Your responses will be treated confidentially.

Yours sincerely,

Glenn O. McRae

P. S. If you are now a member of the Armed Forces, a college or trade school student, or a housewife, please relate your responses to the last job you held.

Mr.  
Name \_\_\_\_\_  
Age \_\_\_\_\_  
Mrs. (If Mrs., please give full name as Mary Ann Jones Smith.)  
Present address \_\_\_\_\_

Highest grade in school completed

High School	College	Other	Degree	Major(s)
Present job	Reason for accepting			

Months in present job \_\_\_\_

Do you feel happy in your present job? (Check one)

- most of the time
- about half of the time
- seldom—less than half the time

How do you feel about the work done on your present job?

- happier than most people doing this
- as happy as most people doing this
- less happy than most people, etc.

(Suppose the pay, hours, location, etc. were all satisfactory; consider only the work you do.)

## APPENDIX I

TABLE 15

## Population by Source of Supply

	From Test Authors			From Other Schools			Totals		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Names received	2,666	3,857	6,523	1,005	1,000	2,005	3,631	4,857	8,508
Addressed received	880	1,517	2,111	999	992	1,991	1,863	2,539	4,302
Information forms mailed	863	1,515	2,018	999	992	1,991	1,862	2,537	4,399
Follow-up forms mailed									
Information Forms returned to sender	169	398	567	76	81	157	265	162	727
Follow-ups returned to sender	37	69	106	25	32	57	52	101	153
Base sample	657	1,018	1,675	903	816	1,719	1,565	1,924	3,519*
Information Forms returned complete	187	290	477	227	212	439	111	152	264
Follow-ups returned complete	101	151	252	121	92	216	225	213	438
Total forms returned complete	288	441	729	351	314	665	639	775	1,114
Percentage returned complete	43.4	40.6	42.3	36.4	38.0	38.2	40.7	39.5	40.42
Information Forms usable	367	278	645	187	223	410	354	501	855*
Follow-up forms usable	85	121	206	98	77	175	177	194	377*
Information Forms rejected	20	32	52	10	10	20	62	30	90*
Follow-up forms rejected	14	30	44	20	26	46	16	34	90*
Overage of forms outstanding	369	637	1,006	557	542	1,099	966	1,179	2,155
Percentage of forms outstanding	56.1	59.3	59.1	61.5	61.9	61.7	59.3	60.5	59.9

\*Base Sample. Working Sample = ( $a + b$ ) - ( $c + d$ )

## APPENDIX L

TABLE 16  
Occupation and Years of Education Completed

Occupation <sup>a</sup>	Years of Education Completed								Total
	Less Than 12	12	13	14	15	16	More Than 16		
Professional and managerial	2	37	24	41	66	243	53	466	
Clerical and sales	6	227	70	41	25	58	4	421	
Service occupations	3	17	9	5	2	6	-	42	
Forestry and kindred	-	26	3	1	-	2	-	32	
Skilled	4	61	15	14	3	6	-	103	
Semi-skilled	2	36	10	4	3	2	1	58	
Unskilled	4	22	5	6	2	1	2	42	
Total	21	426	136	112	91	318	60	1,348	

<sup>a</sup>Occupations by DOT categories.

TABLE 17  
Present Jobs According to Major Interest Areas\*

Job	N	Job	N
Outdoor	21	Scientific-Artistic	3
Outdoor-Mechanical	44	Scientific-Literary	2
Outdoor-Computational	4	Scientific-Social Service	130
Outdoor-Scientific	21	Scientific-Clerical	10
Outdoor-Persuasive	10	Persuasive	25
Outdoor-Artistic	5	Persuasive-Artistic	5
Outdoor-Social Service	13	Persuasive-Literary	12
Outdoor-Clerical	3	Persuasive-Musical	2
Mechanical	119	Persuasive-Social Service	26
Mechanical-Computational	16	Persuasive-Clerical	145
Mechanical-Scientific	32	Artistic	7
Mechanical-Persuasive	11	Artistic-Literary	2
Mechanical-Artistic	11	Artistic-Musical	3
Mechanical-Social Service	2	Artistic-Clerical	1
Mechanical-Literary	4	Literary	2
Mechanical-Clerical	28	Literary-Musical	1
Computational	1	Literary-Social Service	27
Computational-Scientific	22	Literary-Clerical	35
Computational-Persuasive	10	Musical	3
Computational-Artistic	1	Musical-Social Service	7

TABLE 17—Continued

Job	N	Job	N
Computational-Social Service	14	Musical-Clerical	1
Computational-Clerical	111	Social Service	56
Scientific	21	Social Service-Clerical	16
Scientific-Persuasive	4	Clerical	97
Total	520		
		Total	520
			1164

\*Classification according to Euder's "Classification of Occupations According to Major Interests" (1, pp. 5-13).

## APPENDIX M

## IBM CARD LAYOUT SCHEME

Columns	Code	Item
1 - 2		School number
3 - 5		Sequence number
6 - 7		Age
8		Sex
9		Education completed
10 - 14		Job ID (WSES)
15 - 16		Job ID (Kuder)
17		Length of service
18 - 19		Reason for job choice
20 - 26		Item scores (V, VI, VII, VIII, IX, I, and XII)
27 - 30		Item scores and code (XII, and XIII)
31		Over-all satisfaction rating
32 - 35		Kuder raw scores (0, 1)
36 - 39		Kuder raw scores (2, 3)
40 - 43		Kuder raw scores (4, 5)
44 - 47		Kuder raw scores (6, 7)
48 - 51		Kuder raw scores (8, 9)
52 - 53		High measured interests

## APPENDIX N

### CODING INSTRUCTIONS

#### IBM Card Columns

- 1 - 2 School identification number; digits 01-61.
- 3 - 5 Sequence number. Each individual in each school to be assigned three-digit sequence number in order of receipt of Information Forms. Numbers 001-199 reserved for original Information Forms; numbers 201-399 reserved for follow-up forms. This number to be placed by individual's name on school lists.
- 6 - 7 Age; as given on the Information Form.
- 8 Sex; 1 all males; 2 unmarried females; 3 married females
- 9 Education completed in years.  
1 - Less than 12 years  
2 - 12 years, or high school graduates  
3 - 13 years, 1 year of college, technical school, etc.)  
4 - 14 years, 2 years college, technical school, etc.)  
5 - 15 years, 3 years college, technical school, etc.)  
6 - 16 years, 4 years college, technical school, or if listed as college graduate.  
7 - More than 16 years education, professional degree, technical school, etc.
- 10 - 15 Job identification; five-digit code as used in DOT, Vol. I, USES, identify that job. Where DOT code consists of six-digit code, drop last digit.
- 15 - 16 Job identification; two-digit code according to the Ender classification of occupations by major interests areas (1, pp. 5 - 13).
- 17 Length of service in present job (this coding may not be used in analysis)  
0 - less than 6 months      5 - 30 through 35 months  
1 - 6 through 11 months      6 - 36 through 41 months

2 - 12 through 17 months	7 - 42 through 47 months
3 - 18 through 23 months	8 - 48 through 53 months
4 - 24 through 29 months	9 - 54 months or longer

- 15 - 19 Reason for selecting present job. Assign two-digit code starting with 01 for first reason, and with each new reason occurring, assign next consecutive number. Where duplication of reasons occur, assign the initial number given that reason.
- 20 - 25 Score values of 1, 2, or 3 for responses to items V through XI.
- 27 - 28 Job aspired to; classification according to Kuder's classification (1, pp. 5 - 13).
- 29 - 30 Personal feelings about present job; follow instructions given for columns 15 - 19.
- 31 Over-all satisfaction score values of 1, 2, or 3.
- 32 - 33 Raw score on EPR Outdoor Scales.
- 34 - 35 Raw score on EPR Mechanical Scales.
- 36 - 37 Raw score on EPR Computational Scales.
- 38 - 39 Raw score on EPR Scientific Scales.
- 40 - 41 Raw score on EPR Persuasive Scales.
- 42 - 43 Raw score on EPR Artistic Scales.
- 44 - 45 Raw score on EPR Literary Scales.
- 46 - 47 Raw score on EPR Musical Scales.
- 48 - 49 Raw score on EPR Social Service Scales.
- 50 - 51 Raw score on EPR Clerical Scales.
- 52 - 53 Identification of individual's two highest ranking percentiles on the EPR Major interest areas.

APPENDIX C

EXPRESSED FEELINGS ABOUT PRESENT JOB\*

Code

- 01 Happy with the work.
- 02 Opportunity for originality and creativeness.
- 03 Very interesting field of work; rewarding.
- 04 Fellow workers make the present job better.
- 05 Real pleasure and satisfaction from my job.
- 06 If only monotony were removed from this job.
- 07 Better location would help.
- 08 Too much trivia slows the progress of work.
- 09 Opportunity to help others.
- 10 Dislike some of the unethical practices.
- 11 This is the work for which I am trained.
- 12 Lack of responsibility given.
- 13 This job would have meant more had I not married.
- 14 Job lacks challenges.
- 15 Want to expand as it is my own business.
- 16 The work is very satisfactory.
- 17 Job gives a wonderful opportunity for advancement.
- 18 I have to be hounding people; this I dislike.
- 19 Dislike progressive curriculum and some of the methods I am forced to use.

- 20 Like to leave my work at the office.
- 21 Job hours (or pay) make it possible for me to attend college.
- 22 This job has kept me from doing what I wanted to do.
- 23 Although present job is time consuming, it is satisfactory.
- 24 Poor supervision; personal relations are very bad.
- 25 Job is good paying; this is the only good point.
- 26 Work is never done on this job.
- 27 Work is satisfactory, but no further advancement is possible.
- 28 The experience is valuable should I ever need to support my family.
- 29 This job challenges one's ingenuity and alertness.
- 30 Understanding the job, I can do it well.
- 31 Do not like working on weekends.
- 32 Present job is only temporary.
- 33 Job provides opportunity for travel.
- 34 No job is equal in satisfaction to that of homemaking.
- 35 I like to organize things.
- 36 Very exhaustive work.
- 37 Poor working conditions; the pay is low.
- 38 This job makes learning many new things possible.
- 39 Makes possible obtaining many of the things I want from life.
- 40 The work is exciting.
- 41 The job will do, though not fully satisfactory.
- 42 Present job has been held too short a time to tell much about it.
- 43 The supervision is excellent.

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\*Responses to first unnumbered items following item XII

## APPENDIX F

TABLE 16

Responses to Information Form Items and  
Over-All Satisfaction Scores by Present  
Job Compatibility Status

Score Value	Item and Responses	Over-All Satisfaction Scores					
		Compatible Present Job			Incompatible Present Job		
1	2	3	1	2	3	1	2
V	Do you feel happy in your present job?						
3	Most of the time	22	16 <sup>b</sup>	44 <sup>a</sup>	46	152	149
2	About half of the time	21	46	4	36	23	-
1	Seldom (less than half time)	18	5	1	24	1	-
VI	Do you think you would like to be in the same general field of work as your present job five years from now?						
3	Yes	3	71	276	5	55	93
2	Qualified response	1	34	17	7	9	2
1	No	51	55	6	83	41	-
VII	How do you feel about your present work insofar as the work is concerned? Suppose . . . were all satisfactory.						
3	More happy than most, etc.	2	26	217	12	21	82
2	As happy as most, etc.	33	185	235	73	154	67
1	Less happy than most, etc.	26	4	-	26	1	-

TABLE 18—Continued

Score Value	Item and Responses	Over-All Satisfaction Scores					
		Compatible Present Job			Incompatible Present Job		
1	2	3	1	2	3		
<b>VIII What work . . . in your present job do you like most? Like least?</b>							
3	Major interest factors of the job liked most	26	128	280	46	74	92
2	Some major interest factors liked most and least	16	34	14	25	21	2
1	Major interest factors of the job liked least	12	6	3	23	9	-
<b>IX Which do you receive the most pleasure from?</b>							
3	Work done on the job	4	53	221	8	51	72
2	Qualified response	2	36	34	4	13	8
1	Work done in spare time	49	71	42	80	41	14
<b>I Have you ever seriously considered changing from your present kind of work?</b>							
3	No	2	61	221	5	37	61
2	Qualified response	1	45	66	2	23	9
1	Yes	52	54	19	87	43	4
<b>X If the pay, hours, location, etc., were all equal which would you choose?</b>							
3	The job you now have	-	26	201	3	35	74
2	The same kind of work with some changes	10	105	92	13	56	20
1	A different kind of work entirely	45	26	4	77	13	-

## APPENDIX Q

TABLE 19

Major Categories for the Classification of Occupations  
According to Major Interest Areas\*

Code	Category	Code	Category
00**	Outdoor	09	Outdoor-Clerical
10	Mechanical	12	Mechanical-Computational
20	Computational	13	Mechanical-Scientific
30	Scientific	14	Mechanical-Persuasive
40	Persuasive	15	Mechanical-Artistic
50	Artistic	16	Mechanical-Literary
60	Literary	17	Mechanical-Musical
70	Musical	18	Mechanical-Social Service
80	Social Service	19	Mechanical-Clerical
90	Clerical	23	Computational-Scientific
01	Outdoor-Mechanical	24	Computational-Persuasive
02	Outdoor-Computational	25	Computational-Artistic
03	Outdoor-Scientific	26	Computational-Literary
04	Outdoor-Persuasive	27	Computational-Musical
05	Outdoor-Artistic	28	Computational Social Service
06	Outdoor-Literary	29	Computational-Clerical
07	Outdoor-Musical	31	Scientific-Persuasive
08	Outdoor-Social Service	35	Scientific-Artistic

TABLE 19—Continued

Code	Category	Code	Category
36	Scientific-Literary	56	Artistic-Literary
37	Scientific-Musical	57	Artistic-Musical
38	Scientific-Social Service	58	Artistic-Social Service
39	Scientific-Clerical	59	Artistic-Clerical
45	Persuasive-Artistic	67	Literary-Musical
46	Persuasive-Literary	68	Literary-Social Service
47	Persuasive-Musical	69	Literary-Clerical
48	Persuasive-Social Service	78	Musical-Social Service
49	Persuasive-Clerical	79	Musical-Clerical
		89	Social Service-Clerical

<sup>a</sup>From Kuder, G. F. Revised Manual for the Kuder Preference Record. Chicago: Science Research Associates, 1956. pp. 5-13.

<sup>\*\*</sup>Second digit of zero serves as blank for single-digit categories.

APPENDIX R

MAJOR CATEGORIES FOR THE CLASSIFICATION  
OF OCCUPATIONS FROM THE DICTIONARY OF  
OCCUPATIONAL TITLES, VOL. I.

- 0 Professional and managerial occupations
  - 0-0 0-3 Professional
  - 0-4 0-6 Semi-professional
  - 0-7 0-9 Managerial
- 1 Clerical and sales occupations
  - 1-0 1-4 Clerical and kindred
  - 1-5 1-9 Sales and kindred
- 2 Service occupations
  - 2-0 2-1 Domestic service occupations
  - 2-2 2-5 Personal service occupations
  - 2-6 Protective service occupations
  - 2-7 2-9 Unassigned
- 3 Agricultural, fishery, forestry and kindred occupations
  - 3-0 3-4 Agricultural, horticultural and kindred
  - 3-5 Fishery occupations
  - 3-9 Forestry (except logging), hunting and trapping
- 4 and 5 Skilled occupations
- 6 and 7 Semi-skilled occupations
- 8 and 9 Unskilled occupations

## APPENDIX 8

### REASONS FOR SELECTING PRESENT JOB

#### Code

- 01\* Like children and people.
- 02 Good pay.
- 03\* Love for children and teaching.
- 04 Nothing else available - availability.
- 05\* In field of interest.
- 06\* Enjoy the work; like the work.
- 07\* Rewarding and interesting.
- 08\* Trained for the work.
- 09\* Opportunity to learn and help others.
- 10\* Opportunity to work with people.
- 11\* Interested in the work; challenging.
- 12 Hours fitted; better hours.
- 13 To earn money; needed the job.
- 14 Pleasant working conditions.
- 15 Good location.
- 16 Security.
- 17\* Own my own business; opportunity; like to work for self.
- 18 Good job; good experience.
- 19 Opportunity for advancement; good future in this job.
- 20 Steady employment.
- 21 In business with relative.
- 22\* Have the talent for this work (job).
- 23 Contract held me in this line of work.
- 24 Prestige.
- 25 To help put husband (or self) through school.
- 26\* Enjoy travel aspect of this job.
- 27 Bored with housework.
- 28 Lesser of several evils.
- 29\* Opportunity to work with students and others.
- 30 Clean work.
- 31 Easy work.
- 32 Had to help out the family.
- 33 To stay out of the draft.
- 34\* Like the out-of-doors.

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\*Reasons based upon interest or aspect of interest.

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#### BIOGRAPHICAL SKETCH

Glenn G. McRae was born November 26, 1916, in Tampa, Florida. His undergraduate work was done at the University of Tampa, Tampa, Florida where he received the Bachelor of Arts degree and the Bachelor of Science in Education degree. His graduate work was done at the University of Florida, Gainesville, Florida, where he received the Master of Education degree and the Specialist in Education degree in guidance and personnel services. He was a teacher and dean of boys at the 8th Avenue Junior High School, Tampa, Florida, 1950-1955. He served with the United States Navy during World War II, 1942-1948.

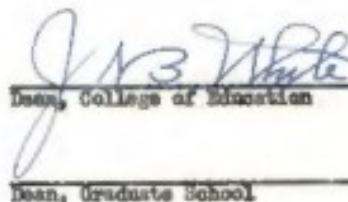
He was employed at the University of Florida while pursuing his doctoral program as a resident counselor for freshmen, a teaching assistant, a graduate assistant, and he was a graduate fellow.

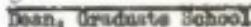
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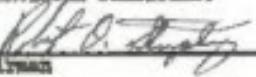
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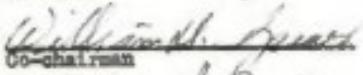
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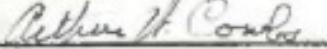
  
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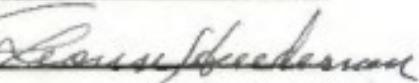
  
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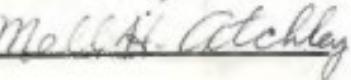
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